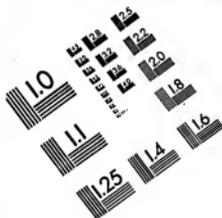




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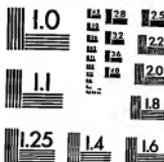
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Centimeter



Inches



Thomas A Edison Papers

A SELECTIVE MICROFILM EDITION

PART II
(1879-1886)

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University Publications of America
Frederick, Maryland
1987

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Thomas A. Edison Papers
at
Rutgers, The State University
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18 June 1981

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START

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THOMAS A. EDISON PAPERS
A SELECTIVE MICROFILM EDITION
PART II
(1879-1886)

REEL 61

DOCUMENT FILE SERIES (DOC-21)

D-82-024 through D-82-033
("Electric Light - Edison Electric Light Company - General" through
"Electric Light - Edison Machine Works - General")

1882. Electric Light - Edison Electric Light Company - General (D-82-024)

This folder contains correspondence, agreements, and other documents relating to the business of the Edison Electric Light Company. Much of the correspondence is by Sherburne B. Eaton, vice president (later president) of the company, and by Calvin Goddard, secretary. Related material can be found in the Edison Electric Light Company Bulletins (Company Records Series).

Approximately 50 percent of the documents have been filmed. The following categories of documents have not been filmed: routine intraoffice communications; routine notices for meetings of the board of directors; receipts; duplicate copies of selected documents.

The Edison Electric Light Company

65 Fifth Avenue

Walter Dill Scott
S. B. Eaton Vice-Pres
E. P. Field Treas
C. Goodrich Secy

New York January, 5th, 1882

ESTIMATE for CENTRAL STATION.

Central Station of one square mile - containing
33,000 ten candle jots.

INVESTMENT.

12 Dynamos of 200 Horse power each a \$12,000 each,	\$ 144,000
Boilers (\$15 per Horse power.)	36,000
4 Smoke Stacks.....	2,500
Piping and foundations for boilers - Blower & Engine	12,000
Iron Structure, erected.....	8,000
Foundations for same.....	5,000
Fire proof floors.....	4,000
Station regulation apparatus.....	3,000
Motors.....	10,000
Erecting appliances and fixing Station.....	10,000
Mains and feeders.....	200,000
Total investment plant.	\$ 434,500

The above prices for machinery &c. are F. O. B. in New York City.

RUNNING EXPENSES - ONE YEAR.

Labor.....	12,000
Bad debts.....	1,000
Coal.....	40,000
Oil and waste.....	2,500
Rent.....	5,000
Executive.....	5,000
Lamps.....	19,800
Depreciation.....	5,000
Motor men.....	3,000
Taxes.....	2,000
Water.....	<u>2,000</u>
Total.	\$ 97,300

PROFITS.

33,000 Lamps burning on an average 3 hours daily 300 days, 5
 foot per hour would make a total of 148,500,000 foot at \$3. 00
 per thousand foot would

amount to	\$445,500 - Gross receipts.
Deduct running expensos.	<u>97,300</u>
	\$348,200 - Net profit.

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

American Light
New York, January, 9th, 1882

Eaton V.P.

Dear Sir:-

You are respectfully requested to attend a meeting at this office to-morrow afternoon at 4 o'clock, for the purpose of considering the course to be pursued in connection with the interference declared on the Edison Lamp. The Counsel of the Company will be present.

Yours truly,

S. B. Eaton

Vice Pres.

per M.H.

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

American Light
Eaton V.P.
New York, January, 9th, 1882

Dear Sir:-

You are respectfully requested to attend a meeting at this office on Wednesday the 11th inst. at 3 o'clock to confer with a Committee from the Eastern Electric Co. as to a proposition by that Company to us to purchase the Sawyer & Man Patents.

Yours truly

S. B. Eaton

Vice Pres.

per M.

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

New York, January 15th 1882

W. A. Edison
W. A. Edison Esq. 65 Fifth Avenue
City

Dear Sir:

At a meeting of the Board of Trustees of this Company held Jan. 5th the following Preamble and Resolutions were unanimously adopted.

"In view of the fact that Mr. Edison has now ^{on} hand a considerable number of machines as well as a large amount of material for the manufacture of machines, and that the present demands of the Company in the United States cannot at present keep pace with his production, it was

Resolved: that Mr. Edison be permitted to manufacture such apparatus as may be required by orders received from England for the space of one year from this date without the payment of any royalty upon such manufactures to this Company, provided however that this Company and its licensees shall always have the preference as

to the date of delivery of apparatus which they may order, but that Mr. Edison shall have the right, without restriction as to date or to preference, except that this authority shall not in any way interfere with the completion of the Franklin Central station dynamo as heretofore ordered, to fill orders for apparatus to the total value of one hundred thousand dollars.

Yours truly
C. S. Seward
Secy

CHAS. BATCHELOR

52, Rue de la Bruyère

CABLE ADDRESS

Batchelor. PARIS.

Will
Paris, le Jan. 20th. 1888

Mr. A. Edison Esq
65. 5th Avenue
New York.

My dear Sir, I have just mailed
proxies from myself and wife for you
to vote for us at stockholders meeting
of the Edison Electric Light Co in favor of
increasing the Capital stock from four
hundred and eighty to seven hundred and
twenty thousand dollars
Yours
Batchelor

10 to 25 East 12th Street,
115 to 120 West 23d Street,
New Avenue, Cor. 4th Street,
5, 4 & 6 West 4th Street

White Light
RIFSON & BROWN
Caulfield
LIVERY ESTABLISHMENTS.

New York, Jan 30 1882

Mr Tho. a. Edison
Dear Sir
Would you advise
me to buy some of your
Company stock and at
what price? this is
Confidential.
Yours truly
Geo Caulfield

Send answer to me at
21 East 12th St

That is a delicate matter to
advise me or better come
round some evening will explain
all we can say to you
Edison

Office of WOERISHOFFER & CO.

No. 24 Exchange St.

New York,

1882

P. O. Box 3105.

My dear Edison,

If you do not intend to directly subscribe for your share of the increased Capital of the Edison Elec. Light Co., I suppose you might as well let me subscribe as to give it those who have already been favored with your bounty without paying much for it.

Yours truly,
J. C. Hoff

I am going to
subscribe for
all of it myself

Blank No. 1.

1035

THE WESTERN UNION TELEGRAPH COMPANY.

Members of the Board of Directors are authorized to sign on conditions, limiting the liability, of the company and to execute any and all contracts in the ordinary course of business, and to do all such acts and things as may be required for the proper management of the company.

This message is an UNRECORDED message and is delivered by request of the sender under no responsibility of the company.

A. R. BOWEN, Secy. NORVIN GREEN, President.

Date *Mentobank* 1882

Received at **791 BROADWAY** Feb 28
St. Paul

65. 50ue

READ THE NOTICE AT THE TOP.

*I will take shares
on three twenty five
pay in days
Francis A Upton*

IF THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN

791 BROADWAY, near Tenth Street,

WHERE ANY REPLY SHOULD BE SENT.

Direct Wire.

7/11/13

MUTUAL UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions, limiting its liability, which have been presented to by the sender of the following message. Errors can be granted against only by repeating a message back to the sending station for comparison, and the Company will not hold itself liable for errors or delay in transmission or delivery of UNREPEATED MESSAGES. This message is an UNREPEATED MESSAGE, and is delivered by request of the sender under the conditions named above.

JOHN O. EVANS, Pres't. **JAS. GAMBLE, Gen'l Manager.** **CHAS. F. PECK, Sec'y.**

2 Ed & cw	19 Colfax St	1 Oak St (Am)
Dated, New York 7/13	Rec'd at Col 16th St Pa 10:20	
To S. Ingham	L. Wash DC 1882	

319 7th St

Board requests would pay your
 accounts quote lowest figures
 immediate orders ten two hundred
 light dynamos fifty screen
 CP Mack

READ THE NOTICE AT THE TOP.

If you will lend me
15 shares stock in
name of Chas. Francis
Stone, and if you will
also sign and hand
back to me the
enclosed letter, I will
see Stone gets both
the stock & the letter

all right — Lucey
has already signed
a letter like this &
given it to Stone with
his 15 shares, and he
prepared this duplicate
letter for you ^{to sign,} as you
see by his mem. on
the enclosed note —

24 Feb S. B. Eaton

File
Herald Electric Press
S. W. Eaton Vice-President
E. P. Fisher Treasurer
C. Goldman Secretary

The Edison Electric Light Company

65 Fifth Avenue

New York, March 29th, 1882

T. A. Edison, Esq.

City.

Dear Sir:-

Please find hereto annexed a copy of a resolution adopted by this company March 2nd, 1882. Pursuant to that resolution will you kindly inform us what your views are with reference to a profit to yourself as manufacturer, in order that we may confer intelligently with you on the subject matter covered by the resolution. Pursuant also to the policy of the company adopted in this resolution, will you kindly furnish us with a list of manufactures (exclusive of lamps) heretofore furnished by you to others than this company and its authorized licensees. Permit us to call your attention to the second clause of the resolution which provides that the license given to you to manufacture under the patents of the company is limited to such orders or transactions as shall be submitted to the company before acceptance or execution.

Our Vice President, Mr Eaton, will be happy to confer with you on this matter at your early convenience.

Very truly yours,

The Edison Electric Light Company

by



[ENCLOSURE]

RESOLVED. That in the judgment of this committee it is the true interest of this company and of Mr Edison to encourage the adoption of the Edison system of lighting in this and foreign countries by extending to purchasers during the present year the inducement of as low a price as possible, and that to that end this Company will participate with Mr Edison in a mutual sacrifice of immediate profit and that to the degree that Mr. Edison as a manufacturer is willing to reduce his profit the Company will reduce its claims for royalty, and that the Vice President be authorized to arrange with Mr. Edison in lieu of royalty upon machines and other patented articles manufactured for foreign countries for a participation in his profit of not more than 33 1-3 per cent and that in the meantime the Vice President be authorized to arrange with purchasers for foreign countries for the privilege of purchasing at Mr. Edison's present prices; and it was further

RESOLVED. That the effect of the foregoing resolution shall cease on January 1st. 1883, and shall not apply to any orders or transactions except such as shall be submitted to the Company before acceptance or execution by Mr. Edison, in order that the Company may protect itself against having its own orders delayed or neglected in favor of foreign orders.

[ENCLOSURE]

Machine Works
Mich 29, 82
Resolutions repts
Manufacturing and
Foreign Sales
Regulation etc.

Mr Edison,

RECEIVED

Can you ~~answer~~ ^{hand} on the following statistics? ~~Y~~

APR 3 1882

think you had the ~~ANSWERED~~ If you cannot can any one in your room
or about the ~~business~~ ^{2nd floor} that you can suggest.

Proportion of capital invested in railroads, gas, woolen
factories, cotton factories, telegraphs, mining, and iron and
steel all in the United States.

Number of thousand feet of gas sold in the several cit-
ies in the United States per annum.

The investment in different cities for every thousand
feet of gas sold. You once made a statement that in New England
it was nine dollars, that in New York it was six dollars and forty
cents and that in San Francisco it was twenty-one dollars.

The relative consumption of gas by large consumers and
small consumers.

March 31st. 1882. S. B. Eaton per No. 6.

410 152-18
J. B. Eaton
2-18-82

Miscellaneous

RECEIVED
APR 8 1882
ANSWERED

Apr 8. 82

Mr. Edison

Meadowcroft
Appt. to meet
..... Vandebilt
..... 1882

Major Eaton received a note from W. H. Vandebilt this morning saying that he would see you and Major at 11 o'clock this morning, but, as we could not find you, I went up and made another appointment for Monday morning at 11 o'clock for you and Major Eaton to see him.

Will you please call in and go up with Major Eaton at that time?

W. H. Meadowcroft

April 8, 1882

RECEIVED
APR 11 1902

ANSWERED

Mr. Russell,

Please give me the exact date when Mr. Hatchelor sailed
for Paris. And on what day it was either three or ten days before
that that the lamps were lit up at Menlo Park. Please give me
such additional information as you can in connection with these
enclosed papers of Mr. Clarke's and return same to me.

S. B. Eaton

April 11th, 1902.

per W.C.G.

(April 11, 1882)

Mr. S. B. Eaton V. P.

In reference to the system
of underground cables at Menlo Park
I will state that much of the exact
data is not to be found although
I have made search here and in
Menlo. From Mr. Kuesi - from Mr.
Motta's journals - and my recollections
I find the following -

- First illumination - circuit running
past Edison's barn - Nov. 1, 1880 -
- Second illumination - Turnpike along
railroad - (3600 ft.) Nov. 2,
- Edison's house lighted Nov. 8
- First general illumination of whole
system, about 500 lamps - Jan. 19 - 1881
- 600 lamps on Jan. 26th
- 650 " " Feb. 24th -

Mr. Motta's last record is March 9th
and I think that we can safely say
that the system was in operation
until the middle of March -
Total length 6 miles
in round numbers
Chas. F. Secor

The distance from the station to the end of the longest circuit was about 3600 ft.

The largest cable was of 25 strands No. 10 wire.

The insulation was two layers of cloth cut in narrow strips and, after being dipped in a compound, wound so as to form lap joints. The cables when completed were covered with a coating of the compound and laid in a shallow trench and covered with earth, without any further protection.

The insulation was always so high that no appreciable loss of current took place. The lines were operated in all weathers and without any accident to circuits or machines. About 400 of the lights were in the street circuits and the remainder were distributed in the laboratory, machine shop, office, and ten houses and stores.

Mr Edison, .

May I beg of you to let me know when you receive im-
portant news from any part of the world of general interest.

Twice I have heard important news down town on the street
before I heard it in my own office.

To day I learn in Drexel, Morgan & Co's that cables
had been received recently from Mr Johnson's stating that he was
about to start his plant on the Holborn Viaduct. We telephoned
from Mr Sabbri's office but could not get connection. I presume
no such cables were received, else I would have been favored with
a copy of them. But my feeling at the time I heard of it was
that even if such cables had come I was by no means certain to
know of it.

I would esteem it a great favor if you would let me
know when important news of general interest is received.

G. B. Eaton

April 12th 1882

per No. 6

[April 13, 1882?]

Miscellaneous

Mr. Editor -

Calvin
RECEIVED

Can I see the cable

APR 13 1882
ANSWERED

from Johnson ¹⁸⁸²

Hopkinson?

Mr. Loney tells me
this noon that one
has been rec'd -

S. B. Eaton

Thursday Noon

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

New York, May 15th 1882

J. Russell Eay

Dear Sir:

Will you kindly
furnish me, at your
earliest convenience,
a list of all dynamo
machines built at the
Machine Works for
shipment to foreign
countries, giving numbers,
sizes and destination
together with dates of
shipment. Please suppli-
ment this with a mem-
orandum of orders entered which
have not yet been
filled - thereafter from
time to time, say weekly
or monthly give me a
report of shipments as
well as ^{such} orders received.

Yours truly, C. D. Adams

Mr Edison,

Can you give me the details of ~~xxxxxx~~ the equipment of Johnson's central station at No. 57 Holborn Viaduct, namely description of the boilers, engines, smoke stack and any other information connected with simply the generation of the current from the coal pile to the manufactured current? If you can do this will you kindly send me a memo. immediately as I am getting up a statement for the next bulletin and wish to use it at once.

S. N. Eaton

May 4th. 1882.

per Mc.G.

Mr Edison,

I suppose you do not care to be bothered with the weekly reports that I have made to me? Still it may interest you to see some of them once in a while: I send you herewith Wilber's report for last week. Also Mr Hoskins. Please return them to me without fail by early mail. Do you care ever to see any of these reports or would you like to have me send them all to you or would you prefer to have me send some only now and then?

S. B. Eaton

May 9th. 1882.

per Mc.G.

Mr Edison,

Many thanks for your memo. of yesterday about mailing full sets of Bulletins to applicants for licenses. I have already begun to get up a list of the best parties for that very purpose. I am glad that the plan meets your approval and I will now hurry it forward all the faster.

By the way, when anything occurs to you why will you not send me a little memo. just as you have done in this case? In that way I can always keep myself abreast of your views.

S. B. Eaton

May 9th. 1882.

per Mc. G.

The Edison Electric Light Company

65 Fifth Avenue

Henry Green Free
S. B. Eaton Vice-President
E. P. Feltner Treasurer
C. G. Searcy Secretary

New York, May 9th. 188

Thomas A. Edison, Esq.

Menlo Park, N. J.

Dear Sir:-

Here is a letter from Mr. Clarke of the Pemberton
Wills, dated May 5th. He is a very important man to us in that
section of the country, and I feel some doubt about what to say to
him. Will you kindly tell me by return mail what you think I had
better write him?

Very truly yours,

S. B. Eaton

per N. G.

and the Company will not be liable for service except to transmitters or delivery or acceptance
of the message in an UNRECORDED MESSAGE and is delivered by request of the sender, under
the following conditions:
A. N. BURNETT, Sec'y. HENRY GREEN, President.

Date: New York 11 188 2
Received at: Marble Park Depot
Ed Edison

READ THE NOTICE AT THE TOP.

Shall you be at home
this afternoon
A B Catton

4 Paid Rs 1.00 pm
v

The Company TRANSMITTERS and RECEIVERS assume only on condition, limiting its liability,
which have been accepted in by the sender of the following message, in the selection action for completion,
and it is hereby notified that it is receiving a message. In the selection action for completion,
the sender's liability will not be held liable for service or delays in transmission of delivery of acknowledged
messages.
This message is an UNRECORDED MESSAGE and is delivered by request of the sender, under
the conditions stated above.
A. N. BURNETT, Sec'y. HENRY GREEN, President.

Date: New York 12 188 2
Received at: Marble Park Depot
Ed Edison

READ THE NOTICE AT THE TOP.

Will visit you tomorrow
I cannot leave today
A B Catton

4 Paid Rs 1.20 pm
v

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

1
Lodona
May 23rd 1882

RECEIVED
MAY 25 1882
ANSWERS

Reg^d Lamp
orders

Sam^l Insull (y)
Menlo Park

Dear Sir:

Yours 22nd inst
at hand and lamp
orders sent as requested.
The order to cover lamps
for Prof^r Young was
overlooked by Mr. Nut-
-chinson, who filed the
letter after sending the
orders for the other ar-
-ticles mentioned. The order
goes today.

Yours truly
J. S. Edwards
Secy

THE EDISON ELECTRIC LIGHT CO.,
85 FIFTH AVENUE.

New York,

May 24th 1882

Sam Insull Esq

Monte Park

Dear Sir

RECEIVED
MAY 25 1882
(ANSWERED)

25 May 1882

File No.

I enclose copy of
my letter of 7th inst. to
which as yet I have
no reply. Please let
me have the information
asked for as soon as
possible -

Yours truly
Howard Jay

[ENCLOSURE]

May 4th 1882

S. Insull, Esq.

Dear Sir:-

o
17
28
1882
11
11

Will you kindly furnish me, at your earliest convenience, a list of all dynamo machines built at the Machine Works for shipment to foreign Countries, giving numbers, sizes and destination together with dates of shipment.

Please supplement this with a mem'd of orders entered which have not yet been filled - and hereafter from time to time say weekly or monthly give me a report of shipments as well as further orders rec'd.

Yours truly,

C. Goddard,

Soc'y.

Mr. Edison,

I return you herewith the letter of the American Co. dated May 17th. You answered the proposition embraced in the first part of their letter but that embraced in the second part, namely, whether we will sell them complete plants for isolated lighting to be resold by them you do not give me your views on. Will you kindly do so and return me this letter which is now marked 26 A.?

S. B. Eaton

per Mc.G.

May 26th. 1882.

Mr Edison,

Mr Mc. Cabe is the acting President of the South Carolina Electric Light Company, and has been here a week or two studying electric lights in order to decide what system to adopt. He is the party who had the letter written to Mr Brush by the Swan people, asking for a verification from Brush of Montgomery's statement about running the Swan light and the Brush light over the same circuit with all the advantages of multiple arc. Mr Mc. Cabe tells me to day that Mr Brush does not claim to do that in the hands of strangers but says he can do it. Also that Brush does not propose to have the incandescent lamps sold to be run with his machine in that way, but will run incandescent lamps, preferentially by means of the storage battery.

I have spent a good deal of time on Mr Mc Cabe as I rather fear it will be very hard to start another electric light company in South Carolina. His company has many of the best men there, and even they seem to be timid and conservative. I should like very much to secure his company for our system, and have done my best to do so. If you will ask what the result of his observations are touching the various arc lights, you will get some amusing information about the way other people do their business. You will not care to trouble yourself about that, I suppose, except as a matter of curiosity. But it will repay you to do so even for that purpose.

S. B. Eaton

May 27th. 1882.

per mMc. G.

John K. Porter,
Circuit Lawyer,
Gen. Wiles Stone,
Clint Francis Stone,
Gen. S. Hamilton,
Wm. L. Porter.

P. O. Box 1836.

Porter, Lowrey, Lorton & Storrie

Attorneys & Counsellors at Law

201 Broadway, New York.

RECEIVED
MAY 31 1882

ANSWERED

May 29th 1882

301 May 29th 1882 by telegraph
FILE No. 1836

My dear Small

I have changed the day
of my sailing to the 21st of June & the Service
& shall like to renew the engagement for
your visit to Tarrytown, when I see you I
want to go to Mend's Park & Newark some
day this week after Wednesday - will
Mr Edison be there all the time now?

I sent the draft of a revised
Lamp Contract to Mr. Edison for
his review some days ago, but he
is so busy now that he refuses to
he has not had time to read it -
I will telephone him now to ask whether
to look into it - if he cannot do so with
in a day or two

Please send me word as to Edison's
opinion. My M^y S^tony

Blank No. 1

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on condition, limiting its liability, which have been accepted by the sender of the message.
Messages can be recalled only by returning a message back to the sending station for comparison, and the Company will not hold liable for errors or delays in transmission of messages.
This message is an UNRECORDED MESSAGE and is delivered by request of the sender, under the conditions stated above.
A. H. BREWSTER, Sec'y. NORVIN GREEN, President.

5 Dated Nov 11 1887 1887

Received at Menlo Park Depot
To S. Edison

READ THE NOTICE AT THE TOP.

Near Edison has
been in town but
can't find him
S. B. Eaton
11 Calver
Nov 3 57 pm

Blank No. 1

THE WESTERN UNION TELEGRAPH COMPANY.

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A. H. BREWSTER, Sec'y. NORVIN GREEN, President.

Dated Nov 10 1887 1887

Received at Menlo Park Depot
To Edison

READ THE NOTICE AT THE TOP.

Will you be at Menlo
all day want to send
German papers of atty for
your signature
S. B. Eaton
9 50 am

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

New York, June 3rd 1892

Aug 10th 1892
My dear Inall

I have notice^d
that statement regarding
machines sent to foreign
countries asked for and
promised - Mr Rocap
told me he sent it to
you a week ago -

Please let me have it

Yours truly
C. Waddell

Mr Moat

Please submit all your matters to Major Wilber and ask
him to make a report on them in writing to me. Mr Edison is
willing to have it done in that way. That will meet your ob-
jections to your showing your hand to Mr Edison, through fear
that other people than himself, at Menlo Park, may get hold of
your points.

S. B. Eaton

June 14th. 1892.

per Mc.G.

Form No. 1.

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been accepted by the sender of the following message. It does not be quoted against only by repeating a message back to the sending station for correction, and the company will not be held liable for errors or delays in transmission or delivery of Repeated Messages, beyond the amount of tolls paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an **UNREPEATED MESSAGE**, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

NUMBER	SENT BY	RECEIVED BY	CHECK
2	C3	E	130 collect

Received at Menlo Park Depot 6/16 1882

Dated New York 6/16

To Edison

Menlo Park N.J.

Put the money in desk and forgot

to send your report today.

C. D. Huntington

2:15 pm

Form No. 1.

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been accepted by the sender of the following message. It does not be quoted against only by repeating a message back to the sending station for correction, and the company will not be held liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an **UNREPEATED MESSAGE**, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

NUMBER	SENT BY	RECEIVED BY	CHECK
4	C3	E	9 Paid

Received at Menlo Park Depot 6/19 1882

Dated New York 6/19

To Albany

Menlo Park

Will be at sixty five at

Elson o'clock tomorrow

Lowney

OFFICE OF THE GRAMME ELECTRICAL COMPANY,

JUNE 26TH, 1882.

SIR:

The Committee on Legislation of this Company, in view of the fact that twenty bills for amendments of the Patent law are before the Committees of the Senate and House of Representatives of the Forty-seventh Congress, and in pursuance of many suggestions made to them by patentees and those interested in Patent property and its protection, respectfully request that you will attend a meeting of representatives of corporations, owning and operating patents, at Room 47, No. 115 Broadway, New York, on Wednesday, July 12th, at 11 o'clock A. M., to confer as to the propriety of taking united action to prevent damaging legislation touching the Patent laws and for the protection of Patent interests, both in the present Congress and hereafter.

As an example of the class of legislation with which the Patent interests of the country are menaced, your attention is called to the following bill, which has been read twice and referred to the Committee on Patents in the Senate, having passed the House, May 15th, under suspension of the rules:

47TH CONGRESS,
FIRST SESSION.

H. R., 6018.

IN THE SENATE OF THE UNITED STATES.

An Act

To amend Section four thousand, nine hundred and nineteen of the Revised Statutes, relating to the recovery of damages for the infringement of patents;

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

That no action for damages or proceeding in equity shall be sustained, nor shall the party be held liable under Sections four thousand, nine hundred and nineteen or four thousand, nine hundred and twenty-one of the Revised Statutes of the United States for the use of any patented article or device, when it shall appear on the trial that the defendant in such action or proceeding purchased said article for a valuable consideration in the open market.

It is well said by eminent counsel that *"no bill that has ever passed either House of Congress has, in our opinion, approached the irrational destructiveness of this"*

We may safely entrust the vast interests at stake to the intelligence, watchfulness and statesmanship of the very able Senate Committee in this particular instance; but those representing Patent interests ought not to omit the duty of educating public and official sentiment in a matter so vital to the existence of the system.

The Committee, in sending this circular to the representatives of the Patent-owning corporations, begs of them to extend the invitation to others who have similar interests, the object being to interest all Patent owners in the proposed organization, and requests that they will acknowledge its receipt, and state whether they will be represented at the meeting.

S. B. EATON,
HENRY I. HOYT,
ROWLAND R. HAZARD,
Committee on Legislation.

Room 47, Boreel Building,
115 Broadway, New York.

To _____

June 27th 1882

Dear Sir

I enclose a letter which will explain itself — If you will dictate a few words to be sent by Mr. Agard to Dr. Henry Green it will probably please it very much & do him some good whether it does us or not.

After this long get away next week if there is a room at the house where Duane & Mrs. J. Young men live I would like to go down there for three or four days with my clerk & finish up the lamp contract & empty else which can now be finished — besides having another chance to call up with the present state of progress in all branches of the business
Sincerely,
G. P. Lowrey

W. H. Chandler to Mr. Lowrey's letter

FROM
JOHN M. TUFTS, JR.
MANUFACTURER OF
OFFICE FURNITURE;
WAREHOOMS,
83 NASSAU STREET,
NEW YORK CITY.

Formerly 58 Liberty St. Agent for the Cutler's Desk
sold upon Cor. T. 2 years ago

Mr. T. A. Edison

Sir: I happen to be one of the

members of the Common Council of Railway - N. Y.
During last year we have paid Railway Gas Light Co
for 110 Lamps - at rate of \$2,000 per year.
They refuse to light at same rate for coming year -
They want more - probably 2,250 \$ =

I am member of Finance committee also of special Com
to see what we can do with Kerosene & C

Gas co. have not performed their duties satisfactorily
any way during past year - My object in writing to
you is to see if you can to consider this matter in
any way - that if it would do us harm to push
you we have to report at next Council meet June 27

Yours Truly
John M. Tufts, Jr.

don't forget me if you want any office furniture please
write me I will be glad to send you a sample
of my now perfecting a sign
of 10% applicable to small towns

but cannot do anything at
present. Am going to try
it first at Roselle on the
Central Road. Would advise
your Common Council to
make no contract with
gas Co which cannot be
easily rejected

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July 1, 1882
List of Stockholders

E. E. L Co } holding stock
E. E. S Co } not
E Co for d L }

		Light Co	See Co.	Isobus
A.	Albinova Emil	10 +	7 +	2 +
	" "	5 1	8 1	3 1
	Adams E.S.	12 1	18 1	0 0
	Atkin J.N.	4 1	6 1	6 1
	Amback J.J.	0 0	17 0	0 0
	Atkin H.A.	3 rd 1	5 1	2 1
	" E.C.	3 rd 1	5 1	2 1
	Adams E.W.	45 1	0 0	0 0
B.	Bowen & Mallace	0 0	2 1	1 1
	Bayard & Peters	0 0	3 1	1 1
	Bailey Latimer	25 1	16 1	50 1
	" E.S.	1 1	2 1	1 1
	" Floyd	7 1	5 1	2 1
	Bass G.W.	20 1	10 1	10 1
	Bush W.P.	1 1	2 1	5 1
	Botta J.	5 1	8 1	0 0
	Buck J.C.	17 1	23 1	26 1
	Bancroft C.	7 th 1	2 1	2 1
	Banker J.H.	120 1	120 1	60 1
	Barick W.C.	1 1	2 1	0 0
	Baldwin E.C.	1 1	2 1	0 0
	Burdoin J.J.	16 1	24 1	8 1
	Blunt W.	2 1	3 1	1 1
	Bell Isaac	1 1	2 1	10 1
	Battles E.O.	1 0	25 1	0 0
	Bellknapp R.L.	9 1	10 1	4 1
	Barney O.T.	3 1	8 1	5 1
	Barney Raymond & Co	0 0	0 0	0 1
	Barber J.S.	18 1	11 1	3 1
	Bancroft Mary	1 1	0 0	0 0
	" Anna	1 1	0 0	0 0
	Bushman J.C.	15 1	0 0	0 0
	Bergmann J.	5 th 1	8 0	0 0
	Buckham W.C.	2 1	0 0	11 1
	Bachelor C.	146 1	0 0	73 1
	" R.	8 1	0 0	4 1
	Barick W.C.	10 1	2 1	0 0

		Light	Ill	Lo
C	Crowell Eugene	15	50	8
	M.L. Jr	1	2	1
	Chapel W.L.	0	0	0
	Chauncey E.W.	0	2	0
	Henry	7	0	0
	Cummings A.	1	2	0
	Clark L.C.	0	2	0
	L.C.	1	2	0
	L.C.	6	9	3
	Chapman J.S.	3	5	2
	Cutting E.D. Jr. & Co	336	509	168
	W.L.	9	12	1
	R.L.	3	5	2
	Chamberlain J.A.	62	12	0
	Croffut W.A.	3 ⁵⁰	8	0
	Conradson G.E.	2	1	0
	G.E.	2	0	0
	E.E.	1	0	0
	Campbell M.	1	0	0
	Ech.	15	0	0
	Cole J.A. Jr	1 ⁵⁰	0	0
	Ech.	1 ⁵⁰	0	0
	Curtis W.G.	4	9	3
D	Drevel Morgan & Co	363	575	362
	Dickerson E.W.	5	8	1
	D'Hoef & Davison	3	2	1
	D'Hoef W.B.	1	2	1
	Dornelly W.J. Ex	2	4	1
	By	2	1	1
	Dornel J.A.	64	96	32
	Dutcher J.B.	3	5	1
	Davis Noah	48	72	24
	Dow J.F.	1	0	0
	Dorman M.C.	0	0	0
	Davis W.C.	1 ⁵⁰	0	0
	C.H.	1 ⁵⁰	0	0
	Delmonico L. Estate	8	0	0
	Dimmick J.H.	0	0	0
	Dyer R.C.	0	0	50
	Dodson R.B.	0	5	1

C. W. W.

C

		Light	Sec	Lo
Edwards	J M	1	2	0
Earl	J M	1 ¹⁰⁰	5	2
Evans	J M	1	2	0
Eastwood	J P	1	2	1
Edson	J R. Estate of	488	782	0
Emdioatts	J P	5	8	0
Edmonds	J D	13 ⁵⁰	14	0
Everett	J J	6 ⁵⁰	10	18
Edison	J A	886	846	455
Osborn	J B	15	20	10
Swickson	J S	4	2	1

F

Foto	J M	53 ²⁰	21	28	1
Franks	E L	3	2	1	0
	E L Co	0	0	1	1
Fabrizi	Chauncer	57	60	1	0
"	E P	12	15	1	0
"	Ely	0	0	5	1
"	Mary	6	12	3	1
"	Sara A	2	0	1	0
Farrington	R J	1	2	1	1
Floyd	J M	.60	1	1	1
Fowler	J M	0	2	1	0
Flagler	J H	0	0	11	1
Fanby	C B	5	0	0	0

G

Ganniss	J E	0	0	20	1
Ganes	J A	0	241	1	0
Goddard	G A	1	2	1	1
"	G	107	88	1	6
"	L O	3	5	1	0
Galloway	R M	0	50	1	0
Graef	G	15	12	1	0
Gillispie	H C	1	2	1	1
Guy	H C	1	2	1	1
Gooddy	G	1 ⁶⁰	1	1	0
Galli	J	1 ⁶⁰	3	1	1
Ganes	H C	1 ⁶⁰	1	1	1
Gostenhofet	J C	4	1	1	1

			Light	Ill	Do
G	Greene	J	5	3	1
	Godfrey	ON	26	39	13
	"	EL	2	3	1
	Godwin	JG	2	2	14
	Stanley	JG	1	6	2
	Gregory	FK	2	3	1
	Green	K	25	68	0
	"Barbani	J.O.	10	38	13
	Gynth	J.A.	1	0	1
	Garnett	R	5	1	0
H	Hurvy	R	0	3	0
	Henderson	J.C.	2	3	0
	Huffman	W.H. Jr	1	2	1
	Hegewisch	H.	0	5	0
	Hussey	H.O.	1	2	1
	"	B.W.	150	2	1
	Hill	J.B.	240	3	0
	Henderson	J.C.	7	7	0
	Hatch	R	1160	40	13
	Herbich	E	1	1	1
	Hall	F.deP	3	5	2
	Horn & Munroe		0	2	0
	Hamington	D.F.	0	8	0
	Hillier	D.C.	0	1	0
	Hurry	R	0	0	0
Henderson	Josephine	0	50	0	
Hatch	H.S. & Son	0	25	0	
Henry	J.B.	0	50	0	
Hughes	C.D.	18	0	0	
Hovells	H.C.	150	0	0	
Hutchinson	J	4	0	0	
Hayes	M.B.	0	0	5	
Hofzer	A	1	0	2	
Holmes	Nak. R.	1	0	0	
Horton	S.K.	6	0	1	
Hays	F.A.	150	0	1	
Hsull	J.	3	21	7	
J	Jenkins	W.S.	1	2	1
	Jordan	Sarah	0	2	0
	Jacques	W.S.	2	0	0
	Jacobs	ON	5	0	0
	Johnson	ON	1200	0	7
Jene	B.I.	1	0	0	

			Light	Ill	So
N	Keyes	E. L. Frank	1.60	3	1
	"	"	2	0	0
	Knowlton	E. J.	2.50	2	1
	"	E. J.	1.50	2	1
	Kollatocle	Chas	2.60	3	2
	Kent	F. L.	8	12	4
	Ketchum	M.	8	15	1
	Krohn	Ag.	1.50	2	1
	Krussi	J.	1.850	6	1
	Korchner	J. K.	50	0	0

L	Leroy	Mich. Fr.	.60	1	1
	Lawson	Ch.	2	3	4
	Lourey	L. P.	345.60	576	209
	"	Hake	2.2	33	11
	Leighton	L. E.	1	2	1
	Lawrence	Gas	3.40	3	0
	Leidbau	H. Co.	11	14	0
	Lewis	Ch.	0	1	0
	Leeburger	Ch.	0	2	0
	Long	C. W.	7.50	0	0
	Lyncohn	R. F.	0	0	20
	Lewis	Ch.	1	0	0

Mc	Meeker	M. B. Co.	0	0	0
	"	Mary K.	2	12	11
	Mott	S. D.	6.40	10	1
	Mathany	D.	6	6	2
	Moore	J. S.	.60	3	1
	M. J. Janssen	Robt	17	18	4
	"	E.	4.50	9	4
	Miller	A. J.	14	218	1
	"	Chas	10	15	0
	"	Franklin	1.50	0	0
	Mason	M. P.	2.40	3	0
	Marwell	H. K.	1.60	3	1
	McMillan	L. D.	.30	1	1
	Morgan	L. P. Fr.	17	26	9
	Monson	M.	2	3	1
	Mortimer	Ch.	1.50	2	1
	Munroe	C. P.	1	2	0
	M. Clary	R.	0	180	0

		Light	See	Isa
M	Mares Oct	0	50	1 0
	Moller & Co	0	6	1 0
	Meadowcroft W.N.	0	11	1 5 1
	M'Clintock J.C.	7 ⁰⁰	0	20 1
	Martin J.M.A.	1 1	0	0 0
	Moore M.A.	0	0	25 1
	M'Laughlin F.	7 ⁰⁰	0	0 0
	Munroe & Wyckoff	1 1		
	" "			
	" "			
N	Navarro J.A.	168	500	1 0
	Naves J.B.	2 ⁰⁰	3	1 1 1
	Nash J.E.	1 1	2	1 1 1
	Newcomb G.G.	5 1	8	1 0 0
	" " J.W.	15 1	23	1 0 0
	Northrop C.	50 1	0	1 1
	Naves J.B.	0	10	1 0 0
	Nathan J.	7 ⁰⁰	0	0 0
O	Olton Agnes	160	0	0 0
	" " J.	160	0	0 0
	" " J.P.D.	160	0	0 0
	Oliver "E.A.	2 1	0	0 0
P	Parsons Levi	1 ⁰⁰	2	1 1 1
	" " N.C.	1 1	3	1 1 1
	Porter J.K.	65 1	50	1 36 1
	" " J.W.L.	760 1	5	1 0 0
	Pell A.	1 1	1	1 0 0
	Prince F.W.	20 1	30	1 10 1
	Pond C.H.	1 1	2	1 1 1
	Perry M.	12 1	2	1 0 0
	Painter W.H.	32 1	30	1 0 1
	Peavin J.P.	2 1	3	1 1 1
	Parsons J.L.	0	0	1 1 1
	Patterson C.H.	0	1	0 0 0
	Peters & Pell	17 1	0	0 0 0
	Pellaw G.C.	1 1	0	0 0 0
Perkins C.E.	5 1	0	0 0 0	

		Light	Ill	So
R	Richards H.L.	0	1	1
	Roach J.H.	0	3	0
	Rogers M.W.D.	1.60	3	1
	" " "	1.60	3	1
	" " R.D.	1.60	3	1
	" " S.C.	8.20	5	1
	Raymond C.S.	1.00	11	2
	Richardson H.W.	2	3	0
	" "	1.50	0	1
	Roberts Lewis	10.50	12	0
	" J.P.	0	5	0
	Rainger J.	3.60	23	1
	" J.	3	13	2
	" M.C.	5	1	3
	Richmond C.M.	1	0	0
	" Jas	3	2	1
	Robinson W.M.	0	0	18
	Romano R.G.	.70	0	0
	Ranger L.J.	1.50	0	0
S	Squires C.W.	0	5	0
	Smith D.W.	1	2	1
	" + Ashby	1	2	1
	" E.	2.20	4	0
	" J.M.	0	25	0
	Starbuck J.	0	2	0
	Stewart A.	0	0	0
	Stimney J.	2.40	3	0
	Storve C.	1.00	3	1
	Smithers L.M.	20	3	2
	Schintel L.H.	1.10	2	1
	Stoen S.W.	30	10	17
	Sterman S.H.	0	3	1
	Stelman J.B.	0	11	1
	Stone O.A.	4.40	15	6
	" " J. Tucker	30	0	0
	Saltmatal S.B.	1	1	1
	Savinjard Tho.	8	0	0
	Schlesinger A.D.	5.50	3	1
	Storn H.	0	1	1
	Stilwell A.	2.60	0	2
	Stewart A.	.50	0	0
	Smith J.	1	0	0
	Starrard E.	36	0	0
	Sturbeck J.		2	

			Light	Stblty	Isolated		
J	Trayner	J. M.	5	1	12	1	0
	Toel	John	160	1	3	1	1
	Thomson	M.	1	1	2	1	1
	Thomson	A. M.	2	1	2	1	1
	Talbot	E. C.	1	1	2	1	3
	"	E. M.	1	1	2	1	1
	"	W. R.	1	1	0	1	1
	"	C.	1	1	0	1	1
	Tucker	A. E.	4	1	4	1	2
	Taylor	Geo		0	2	1	0
	Tracy	H. L.	1	1	2	1	0
	Trask	Hunter		0	236	1	0
	Tappan	C. J.	1	0	1	1	1
	Thomas	A. J.	300	1	10	1	5
	"	D. L.		0	1	1	0
"	A. J.	1	1	0	0	0	
"	F. J.	100	1	0	0	0	
Thompson	E. C.	150	1	0	0	0	
Tillman	A. E.	1	1	0	0	0	
U	Unger	C. C.	600	1	5	1	3
	Upton	L. E.	160	1	3	1	0
	"	F. R.	100	1	1	1	25
V	Vanderbilt	E. W.		0	5	1	0
	Vanderbijer	J.	100	1	3	1	1
	Villard	H.	48	1	72	1	27
	VanderBuren	M. K.		0	4	1	0
W	White	R. K.	4	1	12	1	4
	Whittier	C. A.	3	1	3	1	0
	Wason	J. A.	150	1	2	1	0
	Woodbury	Wheaton Jr	180	1	5	1	0
	Ward	L. D.	150	1	2	1	1
	White	Morrill Co.	2	1	3	1	1
	Wadsworth	L.	6	1	9	1	3
	Walden	A. A.	24	1	24	1	8
	Wilson	M. H.	1	1	2	1	1
	Westmore	G. D.	300	1	5	1	4
Wey	C. F.	2	1	3	1	1	

			Light Co.	Seetg	Sholals
K	Kovistoffer	Co	97	1	149
	Wisting	Mag	0	0	28 153
	"	Scho	0	0	3
	Malerstein	SD	240	1	3
	"	SO	320	1	3
	Wright	M.R	320	1	5
	"	S. J	460	1	70
	"	JH	98	1	123
	"	" Jan	60	1	1
	"	" "	60	1	1
	"	" "	60	1	1
	Helmere & Raathone	"	1	1	1
Kann Jek		8	1	0	
Helmereidng	A.	100	1	0	
L	Lhorvaki	E	12	1	12 1 4 1

THOMAS A. EDISON,
MENLO PARK, N. J.

July 7-1882

Maj L. B. Eaton
65-5 Avenue
New York

Dear Sir

I enclose herewith
letter from G. S. Butler, Louisville
Ky. under date July 5.

I have written him to that
effect and that I had asked
your prompt attention to the
matter

Come Truly
T. A. Edison
Mott

[ENCLOSURE]

Louisville Ky.
July 5th 1882

Mr Lho. a Edwin
Mumfords
N. J.

Sir.

I have written twice
later to your company
in N. York, enquiring
what arrangements could
be made by a number of
fruit class gentlemen here
to introduce your light
in houses in Ind. Tenn. Ky
+ Ohio, but have received no
reply.

Please let me know
when to apply to his order
to make the arrangement
required.

Truly,
Yours,
J. D. Butler

Form No. 1.

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELAYS AMB messages only on conditions limiting its liability, which have been presented to by the sender of the following message. If the sender of the message desires to be released from the conditions of this contract, he should make a separate agreement for the purpose, and the company will not hold itself liable for errors or delays in transmission or delivery of the message, unless the amount of the loss is paid thereon, or in any case where the claim is not presented in writing within thirty days after sending the message. This is an UNREPEATED MESSAGE and is delivered by request of the sender, under the conditions named above.

THOS. T. ECKERT, General Manager.

NORVIN GREEN, President.

NUMBER	SENT BY	RECEIVED BY	CHECK
4	Wm	C	32 Paid

Received at Menlo Park Depot

Dated Montreal 14

To C & Matt

Amberley 11/14 10:45 am 1882

*See Clarke and have Ke
 Drawings sent forward immediately
 Re: Kruesi about tubes Cable Heracleite
 Paris station starts about two weeks
 Give Copy Bailey Cable to Eaton telegraph
 Ogdenburg until advised contrary Edison*

THE MONTREAL AND DOMINION TELEGRAPH COMPANIES' LINES.

Operated by the Great North Western Telegraph Company of Canada.

This Company transmits and delivers messages only on conditions limiting its liability, which have been assumed to by the sender of the following message.

Errors can be guaranteed against only by repeating a message back to the sending station for comparison, and the company will not hold itself liable for errors or delays in transmission or

delivery of unreplicated messages, beyond the amount of rate paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an unreplicated message, and is delivered by means of the sender, under the conditions named above.



ERASTUS WIMAN, President.

H. F. DWIGHT, General Manager.

From No.	To	By	Class	Rate	Time	Day	Month	Year
70	NY	NY	NY	850				

This Telegram has been received upon the above conditions.

No. 74 Montreal, 14 July 1887

By Telegram from French Park Dept NY

To L. A. Dean

Fact over

Montreal

"be read"

Truth signed definitive Contract
same parties cabled April fifteenth
percentum Capital and arrangements
twenty years also Regaly thirty centum
back lamp isolated or Station also
Regaly ten per centum selling price
Small plants when will you
Left - New York Station around July
Hotel Continental Nulman Wellth

READ THE NOTICE AND AGREEMENT AT THE FOOT.

THE MONTREAL AND DOMINION TELEGRAPH COMPANIES' LINES,

Operated by the Great North Western Telegraph Company of Canada.

This Company transmits and delivers messages only on conditions limiting its liability, which have been assumed to by the sender of the following message.

Errors can be guaranteed against only by repeating a message back to the sending station for comparison, and the company will not hold itself liable for errors or delays in transmission or

delivery of unreplicated messages, beyond the amount of rate paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an unreplicated message, and is delivered by means of the sender, under the conditions named above.



H. F. DWIGHT, General Manager.

ERASTUS WIMAN, President.

From No.	To	By	Class	Rate	Time	Day	Month	Year
74	NY	NY	NY					

This Telegram has been received upon the above conditions.

No. _____ Montreal, July 1887

By Telegram from _____

To 2

Stknowide hurry drawing K. Apperson
particulars new lamps thirteen
Stknowide large order for two sets
Seven titles mailed get them
ready all goods ordered urgently
wanted

C. P. Smith

READ THE NOTICE AND AGREEMENT AT THE FOOT.

THE MONTREAL AND DOMINION TELEGRAPH COMPANIES' LINES,

Operated by the Great North Western Telegraph Company of Canada.

The Company transmits and delivers messages only on business days in Halifax, which have been accepted by the sender of the following message.

Errors can be protected against only by repeating a message back to the sending station for transcription, and the company will not hold itself liable for errors or delays in transcription or delivery of uncorrected messages, beyond the amount of tolls paid thereon, nor in any case where the delay is not prevented in writing within sixty days after sending the message.

This is an uncorrected message, and is delivered by request of the sender, under the conditions stated above.



H. P. DWIGHT, General Manager.

KIMBETH WIMAN, President.

Message No.	Time	Sent by	Rec'd by	Time	Class
84	By	A. J.		9.0	24 22

This Telegram has been received under the above conditions.

PLEASE NOTICE AND AGREEMENT AT THE TOP.

No. 7157 1887

By Telegraph from Monte Park

To L. A. Edria Sept

Yacht Arrow

Batch advises demand

ing advances now

on second two large

machines seven

pairs order the

armatures ~~two~~

sets commutators

of sundries box

is all by mail

L. P. Math

The Edison Electric Light Company

65 Fifth Avenue

North Green Free
S. B. Green Vice-President
E. P. Fahnestock
C. Goddard Sec'y

New York.....July-17th-1882.

Thomas A. Edison, Esq.

Menlo Park, N. J.

Dear Sir:-

Enclosed please find a statement from the books of the Light Company showing all your stock transactions in connection with the Company.

Also a statement of the history of your holdings in the Isolated Company.

Also a statement of your holdings in the Illuminating Company.

Enclosed please find, in addition to the above, a list of stockholders in the Light Company, the Illuminating Company, and the Isolated Company, together with the number of shares held by each.

Regarding similar statements for the Ore Milling and the European Companies, I will explain to you personally when I see you.

Very truly yours,



Vice President.

Mr. Edlison,

I send you two copies of what I have prepared on the Swan patents. Please answer me three questions, namely, first, "had I better publish anything in the Bulletin on the Swan lamp? Second, if I publish anything is this about right; third, are my facts right and is the article too long?"

My own judgment is that I had better print it in the Bulletin. The Brush people are talking the Swan lamp everywhere and these facts about the Swan lamp will exercise a strong influence against Swan. What I have prepared is pretty long, almost too long, but I cannot make it shorter and yet have it clear. I have already rewritten it three times and have probably spent more time on it than anything else I have ever prepared for the Bulletin. I can cut it down one half, but it would not be clear and complete.

Will you please send it back by first mail as I am ready to bring out a Bulletin as soon as I get your views on this article?

A Please give one of the copies to Mr. Johnson with my compliments and ask him to send me his comments.

S. B. Eaton

July 17th. 1882.

per Mo. C.

*Will hand this to
Johnson here -*

Mr Insull.

Many thanks for the chance to see the enclosed letter from London. It so happens that a copy of this letter had already reached me. But I seldom get copies, so I wish you would always let me see such things as I may wish to take memo. from them for the Bulletin.

S. B. Eaton

July 26th. 1892.

per Mc.G.

A. J. SAPORTAS & Co.,
Electric Light Stocks,

58 EXCHANGE PLACE.

New York, July 29th, 1882.

Dear Sir,

We quote the following prices:

	BID.	ASKED.
Edison Electric Light Co., - - - -	615	640
Edison Illuminating Co., of N. Y., 80 per cent paid in,	98	102 or \$82 per Share.
Edison Co., for Isolated Lighting, 65 " " "	165	
Edison Co., of Europe, - - - -	60	80

We would be pleased to hear of any stocks in the above Companies offered for sale, and will cheerfully furnish such information as may be desired regarding changes in the market.

A. J. Saportas & Co.

(This is only a corrected proof sheet of the proposed Promoters' Contract, which accounts for imperfections in printing.)

PROMOTERS' CONTRACT.]

15. 7. 82.

Agreement entered into this 10th day of August, 1882, between the EDISON ELECTRIC LIGHT COMPANY, a corporation organized under the laws of the State of New York, hereinafter to be called the Light Company, party of the first part, and (Here insert the names of Theodore Cook, A. Stuart, and all the other of their associates or such of them as they may elect to have inserted) _____ of Cincinnati, State of Ohio, and such others as may unite in subscribing to this agreement, and hereinafter to be called the promoters, parties of the second part.

WHEREAS, the Light Company is the owner of the Letters Patent specified in schedule hereto annexed marked "A," and the promoters are desirous of acquiring the exclusive right to use or license the use of all inventions covered by said patents, or any which may hereafter belong to the Light Company under the terms of certain agreements with Thomas Alva Edison, dated November 15, 1878, and January 12, 1881, in and for the following territory, namely:

The territory lying within the corporate boundaries of the said City of Cincinnati _____

AND WHEREAS, the Light Company, relying upon the benefit which will accrue to all interests which it may retain in said patents, in said locality, by the due exercise of influence, capital, energy and diligence on the part of the promoters,

motors in the business herein contemplated, is willing to enter into this agreement with the promoters,

It is Agreed as Follows:

FIRST. The promoters will, within sixty days from the execution hereof, by the Light Company, and the said

Promoters form a corporation under the laws of the State of Ohio _____ to be named the Edison Electric Illuminating Company of Cincinnati, (hereinafter to be spoken of as the Illuminating Company), with limited liability, and a share capital of not less than *Six*

hundred thousand _____

_____ dollars, with the power and for the purpose of acquiring the right to use all said patented inventions, and of carrying on the business of electric lighting within the territory above defined.

SECOND. The consideration to be given by the Illuminating Company, and received by the Light Company, is: (1) A sum in cash equal to 10 per cent. of the capital stock of the Illuminating Company as it shall be originally authorized or at any time afterwards increased; (2) An undivided interest in all the business, property and assets of the Illuminating Company, and all increase and accumulations thereof, to be represented by shares of its ordinary capital stock to the amount of 20 per cent. of its entire capital originally authorized or at any time afterwards increased, such shares to be issued fully paid without liability to assessment or call; and (3) A yearly royalty of \$2 per horse-power of the rated maximum power for producing current of the dynamo or other generating means or apparatus installed by the Illuminating Company in its business of Central Station Lighting, such royalty to be in lieu of all other royalties for use of any of the said patented inventions or devices belonging to the Light Company under the terms of the agreements above recited.

Every generating machine or apparatus which shall have been in position for use at any time during the period of accounting shall be liable to royalty for the entire period; except that new machines shall not be so liable unless they shall have been put in position for use at least ninety days before the day when royalties are due.

Whenever the Illuminating Company shall desire to disconnect and discontinue to use any machine or apparatus, which shall have been subject to the continuing royalty above provided, it shall give notice in writing with a full statement of the circumstances and with proper identification of any such machine or apparatus to the Light Company, which Company, after assuring itself that such machine has been properly, effectively and in good faith disconnected from the electrical circuit with the intention to cease its use, shall, from and after the next ensuing day of payment, cease to receive royalties upon such machine so long as it shall remain, so disconnected and out of use.

The first cash payment on account of the 10 per cent. upon capital shall be made on the first day of *November*, 1882, and shall not be less than *Twenty five* *thousand* dollars. Subsequent cash payments shall be made *pro rata* out of the cash subscriptions to stock as they are called in and paid.

Delivery of shares shall be immediately made upon the organization of the Company and upon each subsequent increase of stock.

The yearly royalties shall be due and payable semi-annually, upon the first days of January and July in each year.

THIRD. All shares of the Illuminating Company shall be of the par value of one hundred dollars each and of like tenor and effect, and shall be issued for full payment in cash only, except that as above provided, twenty per cent. of all such shares as originally fixed or at any time afterwards created, issued or authorized shall be delivered fully paid to the Light Company or its assigns. No debt or evidence of debt shall be created by the Illuminating Company to provide means for carrying on its business, without the consent of the Light Company, and upon breach of this condition it shall be at the option of the Light Company, its successors, or assigns, to rescind this contract and any subsequent contract with the Illuminating Company and to revoke all licenses or privileges arising from

or granted under either of said contracts. No accumulated earnings shall be applied to the increase of plant or facilities without consent of the Light Company.

FOURTH. As soon as the Illuminating Company is formed and its capital stock shall have been fully subscribed by the promoters, or persons approved by them under the terms of the second recital and the fifth article hereof, the Light Company will execute and deliver to the Illuminating Company, a contract and exclusive license, authorizing and regulating the employment of the Light Company's Letters Patent by the Illuminating Company in the business of Central Station and isolated lighting in Cincinnati —

_____ and of producing and selling in said territory electric light, heat or power for all and every purpose not hereinafter excepted during the life of each and all the Letters Patent, now, or at any time belonging to the Light Company under the certain agreements with Thomas Alva Edison, specified in the first recital. Said contract and license in addition to repeating and securing the reservations, obligations, and covenants of this agreement under suitable conditions, penalties and forfeitures for breach thereof, shall provide:

1. That the Illuminating Company, and all persons acting under its license or authority, shall purchase all articles or devices which are, or are claimed by the Light Company to be, covered by its Letters Patent, from manufacturers in the United States licensed to manufacture by the Light Company.

2. Such conditions as the Light Company may deem necessary and may adopt for general application in similar licenses for use, to protect it against prejudice to its general interests by the action of any licensee in employing inferior machines or apparatus, or using the Light Company's patented devices in connection with apparatus or devices not covered by its patents.

3. That the Light Company shall have prompt notice and efficient and exclusive control of all proceedings at law or in equity, instituted against the Illuminating Company or

any of its licensees or customers, in any way involving the validity of the Light Company's Letters Patent, or any of them.

4. That the Light Company shall, at the charge and upon request of the Illuminating Company, supply to it all the necessary drawings, specifications and directions for installations of any of the patented devices covered by this agreement.

It is understood that the Light Company is not now engaged in manufacturing, and cannot fix or stipulate prices to be charged by manufacturers, but that it will endeavor to secure fair and uniform prices to all licensees, and especially to secure to the Illuminating Company and its customers and sub-licensees under this contract the most favorable terms given to any purchasers in like amount in the United States.

FIFTH. The promoters and each of them will exercise their and his best judgment and influence to have the Illuminating Company composed of persons selected on account of their financial ability and business and social influence in said City of *Cincinnati* — , so as to obtain for the contemplated business as prompt, wide and popular support as possible. The Illuminating Company shall inaugurate at least one central station with all the equipment requisite to generate and distribute not less than one thousand horse power of current within six months from the date of this agreement.

SIXTH. The Light Company shall have the option at any time and to any amount which it may elect to receive capital shares at par instead of the 10 per cent. in cash hereinabove provided for, and this option may be exercised in respect to the first or any subsequent issue or increase of stock, or any part thereof.

SEVENTH. This agreement does not apply to or authorize the use of the Light Company's patented devices for the propulsion or lighting of railway trains, steamboats or vessels, or the furnishing of power for railway, tramway, street or other traffic, nor for any other purpose than electric lighting on land (other than railway lighting), and the supplying of heat and power in such an electric lighting circuit.

EIGHTH. The term "Central Station Lighting" means all

lighting by electricity where the current is generated at a common source, to be distributed and sold to more than ten customers or consumers in the general manner in which illuminating gas is now distributed and sold.

NINTH. The term "Isolated Lighting" means all lighting by electricity where the source of supply is owned or controlled by the person or persons by whom the light is actually employed or consumed in the manner now commonly in use for the lighting of private houses or manufactories by a private gas generator owned or controlled by the consumer.

*on application
of Supt.*

No royalty is to be paid to the Light Company upon apparatus used in isolated lighting.

TENTH. Should the laws of the State of Ohio — forbid the issue of full paid shares to the Light Company as herein provided, or in any other way prohibit or fail to authorize these arrangements or any of them, the Light Company and the promoters, or the Company, as the case may be, will unite in establishing equivalent arrangements to carry out in a legal manner the principles of the stipulations herein contained.

ELEVENTH. This contract and the contract and license with and to the Illuminating Company above provided for and all licenses and privileges granted or arising thereunder shall be revocable for breach of any of the conditions binding upon the Illuminating Company, or the promoters, or any licensee, continued for thirty days after notice and demand of performance duly made in writing by the Light Company. Where such breach is by a sub-licensee or customer of the Illuminating Company, the revocation shall affect only the right and privileges of such sub-licensee or customer, which shall thereupon revert in the Illuminating Company, which shall not again license such sub-licensee or customer without the consent of the Light Company.

TWELFTH. The Light Company guarantees that no grant of territory or installation of its patented devices has been made by or for it in the City of Cincinnati, except as specified in Schedule B hereto annexed.

THIRTEENTH. The signatures of parties of the second part shall be for the amount of shares set opposite to each, and

when the full amount of \$ *600,000* shall have been subscribed the company shall be formed and this agreement shall be fully in effect.

FOURTEENTH. The promoters guarantee that the Illuminating Company shall be and remain possessed of all the legal rights and powers requisite to carry on an electric lighting business in the City of *Cincinnati*, including right of way in streets; and this contract and any subsequent contract with the said company may be revoked for breach of this condition at any time, provided that no such revocation shall be made for failure to have or possess any rights or powers capable of being conferred by the municipal authorities or the courts of law until after reasonable notice by the Light Company and a continued failure of the *Cincinnati* Company for *six* months to acquire and hold such rights and powers.

IN WITNESS WHEREOF the parties hereto have caused these presents to be subscribed by their proper officers, thereunto duly authorized, and their corporate seals to be hereunto affixed the day and year first above written.

Schedule A.—Continued.

NO.	DATE	TITLE OF PATENT.
281,543	Dec. 27, 1891.	System of Electric Lighting.
281,543	" 27, "	Electric Lamp.
281,544	" 27, "	Manufacture of Electric Lamps.
281,545	" 27, "	Electric Meter.
281,546	" 27, "	Electric Lamps.
281,547	" 27, "	Electric Governor.
281,548	" 27, "	Incandescent Electric Lamp.
281,549	" 27, "	Electric Lamp and the Manufacture thereof.
281,550	" 27, "	Magneto or Dynamo-electric Machine.
281,551	" 27, "	System of Electric Lighting.
281,552	" 27, "	Underground Conductor.
281,553	" 27, "	Electric Chandelier.
281,554	" 27, "	Electric Lamp and Socket.
281,555	" 27, "	Regulator for Dynamo-electric Machine.
281,556	" 27, "	Regulator for Dynamo-electric Machine.
281,557	" 27, "	Wet-runner.
281,558	" 27, "	Electrical Drop-light.
281,559	" 27, "	Design for an Incandescent Electric Lamp.

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(Copy)

Holyoke, Mass., Aug. 15, 1882.

Maj. S. B. Eaton,
President.

Dear Sir:-

A Mr. G. H. Waterman, a Salesman in the employ of Lee & Sturgis, paper stock dealers in New York, who is here frequently, talks a great deal about his former connection with H. S. Maxim and assumes to be in possession of information about that person's first efforts with incandescent lights valuable to the Edison Company. I am well assured that he did at one time have business relations with Maxim and that some trouble arose between them, but how close that connection was I do not know. In view of the rumors of coming litigation I take the liberty of placing this before you for what it is worth.

Respectfully,

Geo. D. Baneroft.

The Edison Electric Light Company,
65 Fifth Avenue.

New York, _____ 188
Aug. 15th? 2

Thomas A. Edison, Esq.

Menlo Park,

N. J.

Dear Sir:-

I enclose herewith a letter from Andrews and Chandler dated the 14th of July with remarks of Major Eaton attached. I have no knowledge of any services rendered to the Company by Mr. Chandler but do remember that Mr. G. F. Jacobson had some relations with you with respect to matters in Washington. Can you give me any information in regard to the matter, and in respect to the propriety of Mr. Chandler's claim?

Yours very truly,



Secretary.

Referring to yours of 10th
Jacobson went ~~to~~
to Washington account he had
on his own ~~bank~~ he had
no connection with
the Co or ~~separation~~
to act for us
He was trying to get the Chandler's job.

Librally.
Aug 27th 1882.

Dear Sir:

After waiting here all the afternoon expecting you I found you had gone out, having evidently forgotten your promise to give me the figures tonight.

I could find no statistics of Gas Companies in Canada. only the names of a few in the Gas Engineers diary.

Would you please have the whole information I asked of you prepared and sent to me at 66. 5th Avenue by noon on Wednesday, as I must return by Wednesday night train.

Yours faithfully
A. J. Lawson

S. Inshall Kay

P.S. If you want here to come out
~~for a~~ please ~~take~~ the 11th M^o.

Edison & yourself can be seen
and ~~will~~ come at once

S. Insull Esq

Edison
Aug 27 1878
47

THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE.

New York, Aug 31st 1882

J. A. Edison Esq

My dear Edison -

Enclosed postal card refers to some correspondence between Mrs Tufts and Maj Eaton in reference to lightning struts in Rahway - Mr Moore tells me that it was the subject of some conversation in connection with the village plant experiment and that since we have commenced the installation at Roselle we do not of course wish to do anything at Rahway - Please let me know your views, I do not think we want to grant any rights to municipalities as we might in that way prejudice the formation of local companies.

Please reply promptly returning enclosed that I may answer before the date named (Sept 5)

Yours truly
C. Howard Lee

The Edison Electric Light Company
65 Fifth Avenue

Merch. Glass Pass
S. B. Extra Vote-Pass
S. P. Public Trust
C. Gilded Seal

New York.....September 1st.....188

T. A. Edison, Esq.

Menlo Park, N. J.

Dear Sir:-

I have yours of the 31st. ult., returning Mr Hos-
kins' letter in respect to Freeman, also containing a request
to procure electro type for the Weekly Sewing Machine Journal,
which has my attention.

Very truly yours,



Secretary.

John K. Porter
Sergeant at Law
City of New York
City of New York
City of New York
City of New York

P. O. Box 1836

Porter, Lowrey, Loren & Stone
Attorneys & Counsellors at Law

No. 3 Broad St. (DIXIE BUILDING)

New York, Oct. 6th 1882.

Dear Mr. Insull:

Yours of the 5th at hand. I
shall be pleased to see you here on
Monday at 12 o'clock to discuss
Camp Contract.

Yours very truly
G. P. Lowrey
per A. H.

Samuel Insull Esq
65 Fifth Avenue
N. Y. City

Mr. Edison,

Here is a copy of the proposed contract with Mr. Shepard. I have indicated with blue interrogation marks the points which are yet to be decided upon. Otherwise the contract is substantially complete.

Oct. 19th 1882.

J. B. Eaton
H. M.

THE EDISON ELECTRIC LIGHT CO.,
36 FIFTH AVENUE.

New York, *October 25* 1882

RECEIVED
OCT 25 1882
A.N.S. & L.D.

FILE No. *188*

Notifying you of our
annual meeting of the
Board of this Company, held
at 10 o'clock on Wednesday
the 25th inst. for the
purpose of electing officers
for the
coming year.

All matters for presentation
at the meeting, and such other business
as may come before it, will be
held on Wednesday the 25th inst.
at 10 o'clock P.M. at the office
of Michael Drexel Morgan, No. 3.

A full attendance is earnestly
requested.

Very respectfully,

C. Edward Lee

The Edison Electric Light Company

65 Fifth Avenue

Head Green Fee
S. E. Green Name Fee
E. P. Fabbri Trade
C. Goddard Serv

New York.....October 20th.....1882

Thomas A. Edison, Esq.

65 Fifth Avenue, City.

Dear Sir:-

Enclosed please find a copy of my annual report to the
Stockholders of the Company submitted at the annual meeting held
at the office of the Company October 24th.

Very truly yours,



President.

Report of the Board of Directors made to the annual Stockholder's meeting, October 24th, 1882, pursuant to the Third Article of the By Laws.

To the Directors of the Edison Electric Light Company:-

Since the last annual meeting the stock of the Company has been increased fifty per centum, namely, from four hundred and eighty thousand dollars to seven hundred and twenty thousand dollars. This increase was recommended by your Board January 5th. 1882 and was approved at a special meeting of the Stockholders called for the purpose January 31st. 1882. Only sixty per centum upon this increased stock has been called in:

The Edison Electric Illuminating Company of New York

finished its first district in August and the dynamos were started in the Pearl street station, in that district, at three P. M. September 4th. The district has been partially lighted up ever since without having once stopped. There are six steam dynamos in the station, but thus far only one has been run at a time, owing to certain engineering difficulties touching the regulation of the engines. Aside from this trouble, no obstacles have arisen. It is believed that this question of the regulation of engines has now been overcome, and that ^{at} an early day all the six steam dynamos can be run, if desired, at the same time. As regards what might be termed the electrical part of the plant, namely the part relating to Mr. Edison's inventions and to his system of electric lighting, the lighting up of the first district has

proved an entire success.

Regarding the Edison Electric Railway, the report submitted at the last annual meeting gave a history of what had been done up to that time. Among other things it was stated that Mr. Edison had arranged with Mr. Henry Villard for the construction of a section of electric railway at Menlo Park. Since the last annual meeting Mr. Villard has withdrawn from his arrangement with Mr. Edison and the latter has gone on with the installation at his own expense. The road was built and cars have been run over it experimentally since last Spring. The experiments,

however, are not yet entirely completed to Mr. Edison's satisfaction, but as soon as he can find ^{time} from the pressure of more imperative matters, namely, those connected with the electric lighting branch of our business, he expects to go on with these experiments and perfect the railway for practical use. Until that is done no steps will probably be taken towards the formation of a company for exploiting the Edison Electric Railway and the whole subject remains substantially where it was one year ago.

As to the lighting of railway trains, this matter remains where it was at the last annual meeting. Nothing has thus far been done in this direction beyond laboratory experiments, to which especial attention is just now being given by Mr. Edison.

The isolated business and the lighting of steamships were two subjects to which especial attention was called in the last annual report. It was evident that a large amount of Capital would be required to develop these kinds of lighting and that either ^{the} Capital of our Company would have to be increased to raise such Capital or a new company with adequate capital would have to be formed. There was strong objection on the part of some of your Board against changing the policy of our Company from what it had always been, namely, that of merely paying the expenses of experiments and of taking out and holding patents and not of investing capital in the actual business of lighting, and in view of this feeling on the part of some members of the Board the decision was finally reached that a new company should be formed with adequate Capital for the special purpose of carrying on the isolated business. Accordingly on November 4th. your Board decided to recommend the formation of such a distinct Company, to take a license from this Company for the Isolated, mining and marine business throughout the United States for all territory outside of actual gas limits January 1st. 1882. Such company was subsequently organized, with a capital of five hundred thousand dollars of which amount two hundred and fifty one thousand dollars of fully paid stock was issued to this Company for a license. The contract between the Isolated Company and this Company was executed April 20th. 1882. The business of the Isolated Company has grown rapidly and has already assumed

4

large proportions. Up to the present time that Company has installed about one hundred and thirty plants aggregating over twenty two thousand lamps. Notwithstanding the great expense attending the inauguration of such an entirely new business a handsome dividend has already, in the first year, been earned by the Isolated Company from the sale of machines and lamps. The future of the business of the Isolated Company is exceedingly promising.

Pursuant to a resolution of your Board passed November 4th, 1891, appointing a committee to confer with a committee from the Gramme Electrical Company touching the question of this Company joining that organization, satisfactory arrangements were consummated, and the contracts between our Company, the other companies composing the Gramme Company and the Gramme Company itself, were executed April 20th, 1892. Your Board are of the opinion that our Company will derive especial benefit in the future from being a member of the Gramme organization, not so much on account of the Gramme Patent, which is probably of no especial importance to our Company, but on account of the means afforded by the Gramme Company towards harmonizing the conflicting interests of the various electric light companies engaged in the same kind of electric lighting.

During the past year a number of Electric light companies have made overtures to our Company for consolidation. In some

cases they have sought to sell their patents to us out and out. These overtures have always been met in a courteous manner and have always been thoroughly examined by your Board. In some cases written opinions have been obtained from the counsel of the Company and also from Mr. Edison. But in no case have your Board considered it for the interest of our Company either to buy out the business of such companies as have offered to sell or to amalgamate with those seeking consolidation.

During the past year several new Companies have been formed for the development of our business in specific localities. The largest company is the Western Edison Light Company, to whom a license has been granted by our Company for the three States of Illinois, Iowa and Wisconsin. The contract between that Company and ourselves was authorized by the Board at its meeting held April 25th, 1892, and was executed two days later.

A company has also been organized and licensed for California and Nevada.

Arrangements have been made for the formation of a parent company in Chili; and a local company has been formed and licensed for the City of Santiago, Chili, where a central station plant is now being installed, considerable delay however, having been

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caused by the great difficulty in obtaining satisfactory concessions touching the right of way through the streets of Santiago.

A local company has been formed at Lawrence, Mass., to which we have granted a license for that City. They are now making their arrangements to install a small plant, preliminary to installing a central station.

Your Board has agreed to give a license for the City of Covington, Ky. to certain gentlemen who are now engaged in forming a company at that place.

Your Board have also agreed to grant a license to a local illuminating company for the City of Fall River, Mass., where a small central station with overhead wires has been running since last winter.

At a meeting of your Board held January 23th. 1892, an application was received from desirable parties to form local illuminating companies in the following cities in the State of New Jersey, namely, Jer City, Hoboken, Rutherford Park, Passaic and Paterson. Your Board has consented to grant a license to a company organized by the parties referred to for those cities. An application is now pending from the same parties to increase the area of their proposed operations to include the entire State of New Jersey.

A local illuminating company has also been formed and licensed in the City of Williamsport, Pa. Negotiations are now in progress for the formation of a company for the Dominion of Canada and it is believed that such a company will be immediately formed by desirable parties and on the terms entirely satisfactory to this Company. Negotiations for the formation of other companies are now going on.

Regarding the formation of subordinate companies, it has always been the policy of our Company, and that policy has been continued by your present Board during the past year, not to be

in any haste about disposing of either large areas of territory or of licenses for single cities and towns. Your Board feel that until the first district shall have been successfully installed and put in operation by the Edison Electric Illuminating Company of New York City, it will be for the interest of the Company not to expedite the formation of local illuminating companies.

A large number of applications from cities, however, for local licenses to local companies are on file in the office of the Company and are in many cases being pressed with much anxiety by parties proposing to form such companies, and as soon as the Pearl street station in this City shall have been in successful operation a sufficient length of time to practically establish the success of the Edison system of central station lighting, your Board

suggest that such applications be taken up, carefully considered and that in proper cases licenses be granted.

Several important questions touching the general policy of the Company in specific matters have engaged the careful attention of your Board during the past year. One of these questions was regarding a license or permission for the manufacturing in this country, under patents belonging to our Company, of machinery to be shipped to foreign countries. As regards machinery to be shipped to England, your Board decided, January 5th, 1882, that it was for the interest of the Company to permit apparatus to be manufactured and shipped for the period of one year from January 5th, 1882, without the payment of any royalty to this Company; and as regards other foreign countries your Board decided at a meeting held March 2nd, 1882, to consent to the manufacture and shipment of machines and other patented articles for a royalty based on a participation in the manufacturer's profit, this arrangement to hold good until January 1st, 1883, provided all orders are first submitted to our Company before acceptance or execution by the manufacturer. No income whatever has thus far been received by the Company on account of the said license for manufacturing purposes.

The entire subject of the manufacture of apparatus under the patents belonging to our Company is one of pressing importance, and requires immediate attention. Our Company was

organized merely for the purpose of paying the expense of Mr. Edison's experiments touching electric light, heat and power and to take title in his inventions and patents. In the organization of our Company and in its subsequent development, no provision was made for conducting the business of manufacturing and furnishing the necessary capital for that purpose. In fact, the policy of the Company has thus far been merely to be the owner of the patents and to derive its income from licenses and royalties. The growth of the business of electric lighting however is rapidly developing the fact that the business of manufacturing apparatus is one of great importance as well as of great profit. The question should therefore be carefully considered without further delay whether the policy of the Company should not be so changed and its capitalization increased in such a manner as to make our Company a manufacturing company in addition to what it is at present. This subject has been repeatedly ~~been~~ discussed by your Board during the past year, the officers of the Company who have charge of the management of the business at the office of the Company having bestowed much thought upon it, and your Board desires to especially impress upon the Company the vital importance of this matter being taken up and carefully considered at an early day. It is easier now to obtain possession of and to control the manufacturing industries connected with our business than it will be hereafter when these industries shall have been developed into vaster proportions.

Another matter which has engaged the attention of your Board has been the question of the sale of lamps to other electric light companies to be used by them in connection with their own patented apparatus. This matter has been given careful attention and your Board decided at a meeting held May 16th, 1882, that no lamps should be sold except in connection with our own apparatus.

Another important matter considered by your Board has been the question of bringing suits against infringers of our patents. Your Board decided at a meeting held May 16th, 1882, to serve notice under advice of counsel upon all the companies infringing our patents. Such notices, prepared by counsel giving formal notice that infringers would be prosecuted have been formally served upon all electric light companies believed to be infringing.

Mr. Edison submitted to your Board, at a meeting held July 7th, 1882, a statement touching the installation of an experimental village plant at Roselle, N. J. and an estimate of the cost of the said plant was given. Your Board jointly with the Edison Company for Isolated Lighting has authorized the construction of such a plant, the expenses to be divided between this Company and the Isolated Company. The installation of this village plant is now rapidly going on at Roselle.

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The financial condition of the Company is fully set forth in the Treasurer's report herewith submitted. It shows that during the past year the income of the Company has exceeded its outlay and that a balance is carried over to another year which will go far towards paying the expenses of another twelve months, without using future receipts for that purpose. Considering the safe and conservative policy adopted in the management of the business of the Company, a policy which has not been intended to secure immediate returns by the sacrifice of large territory or by disposing of licenses before their value shall have been fully and experimentally determined, the fact that the Company has already become more than self sustaining is highly encouraging. Your Board consider the outlook as full of promise and they confidently expect in view of the successful development of the past year the most gratifying results in the future.

Mr. Edison,

RECEIVED

OCT 30 1882

ANSWERED
Possibly may be interested to see once in a while

what the bank balances are. I have a statement made me by Mr. Hutchinson every day. I will send it up now and then if you wish me to do so.

I am expecting a telegram from Bailey about sending funds from Paris to meet the interest on the European bonds. The interest is due next Wednesday. If you get any telegram please send it down to me.

Regarding the invitation from Mr. Morgan to see his house lighted up next Monday night, I have sent a note to Twombly asking him to be present. I have also invited Dickerson and Betts. I have also invited Borden to come here from Boston, and he notifies me he will do so.

S. B. Eaton

October 28th, 1882.

per Mo.G.

[ENCLOSURE]

Mus. Bank Balances Oct. 28th 82

Light les	{ D. M. les	107.46	
		Metropolis	440.39
		Total	<u>547.85</u>

Illuminating les.	{ D. M. les.	20.528.88	
		Metropolis	3.010.87
		Total sum.	<u>23.539.75</u>

Isolated les	{ D. M. les.	30.41	
		Mus. square	839.29
		Total	<u>869.70</u>



Mayor's Office.
Brooklyn N.Y. Oct. 31 1882

Governor P. Lowrey Esq.

Dear Sir:

Mayor Low, desires me
to acknowledge receipt of your favor
of yesterday and to state that he
will be pleased to meet your friend
and yourself at this office, tomorrow
(Wednesday) P. M. between the hours
of three and five o'clock.

Respectfully

Joseph W. Stephens

Acting Secy

Will Mr. Stephens please write Mayor Low
for a receipt of what when come to
the Mayor's Office of

Form No. 1.

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assumed to by the sender of the following message. Errors can be corrected only by retransmitting a message back to the sending station for comparison, and the company will not hold itself liable for errors or omissions in transmission of messages. The amount of telegrams paid through, and in any case where the claim is not presented in writing within sixty days after sending the message.

THIS IS AN UNREPLACED MESSAGE, and is delivered by request of the sender, under the conditions stated above.

TELOS, T. ECKERT, General Manager.

NORVIN GREEN, President.

NUMBER	SENT BY	RECD BY	CHECK
46	NY NY	13 PL	
Received at 791 BROADWAY.			
Dated <i>Thermytown Heights ny 1</i>			
To <i>J.A. Edison</i>			
<i>65-5AVE</i>			
<i>Will be at my office</i>			
<i>at two o'clock PM call</i>			
<i>on major Low</i>			
<i>G.P. Lowry</i>			

This telegram has just been received at the office in 791 BROADWAY, near South Street, where any reply should be sent.

DIRECT WIRES

Mr. Edison,

This list of new companies may interest you

return after reading,

S. B. Eaton

November 2nd, 1892.

per M.C.

RECEIVED
 NOV 2 1892
 ANSWERED
2nd rec 1892
 FILE NO. 1

Mr. Edison,

What do you think of increasing Bradley's pay? I am
opposed to it. No matter how valuable we have too many
other valuable and high priced men ~~as~~ much as this.
Our present pay roll is tremendous. I have recently requested
Clarke to make out a list of every employee and then to sit down
and go over them with me one by one to see where we can eliminate.
What are your views and wishes regarding Mr. Bradley?

S. B. Eaton

Nov. 2nd. 1882

per Mc.G.

Mr. Edison,

This letter paints a picture which we are finding in
several cities. We postpone forming local ~~illumina-~~ illumina-
ting companies because people will not go into them until our
big central station on Pearl St. is a success, and because they
take so much capital. Meantime the Brush company are making head-
way as appears from this letter. I think the letter will interest
you and I therefore send it to you for your suggestions.

S. B. Eaton

November 2nd. 1882.

per Mc.G.

Mr. Edison,

You may feel interested to see the bank balances on the
the first day of the month.

S. F. Eaton

Nov. 2nd, 1882. RECEIVED

per No. 6.

NOV 2 1882
ANSWERED

FILE No. 54

[ENCLOSURE]

-BANK BALANCES.-

Morning of *Oct 1st* 1882

LIGHT CO.	{ Drexel, Morgan & Co. . .	502.46
	{ Bank of Metropolis . . .	1078.08
	TOTAL . . .	1580.54
ILLUMINATING CO.	{ Drexel, Morgan & Co. <i>2401</i>	20528.88
	{ Bank of Metropolis . . .	3857.46
	TOTAL <i>chm.</i>	16671.42
ISOLATED CO.	{ Drexel, Morgan & Co. . .	304.1
	{ Madison Square Bank . . .	2127.43
	TOTAL . . .	2257.84

Mr. Edison,

Perhaps you may be interested in looking over this
list of patents of the Gramme Co.

S. B. Eaton

November 2nd, 1882.

RECEIVED
NOV 2 1882
ANSWERED

per H.C.G.

Recd 2/20/882
FILE No. 1

[ENCLOSURE]

The Gramme Electrical Company,

115 BROADWAY, NEW YORK.

SHAREHOLDERS.

THE AMERICAN ELECTRIC COMPANY.
THE BRUSH ELECTRIC COMPANY.
THE EDISON ELECTRIC LIGHT COMPANY.
THE FULLER ELECTRICAL COMPANY.
THE JABLOCHKOFF ELECTRIC LIGHTING CO.
THE UNITED STATES ELECTRIC LIGHTING CO.
THE WESTON ELECTRIC LIGHT COMPANY.

TRUSTEES.

WILLIAM H. ATTEYTON.
LEONARD E. CURTIS.
SHERBURNE B. EATON.

ROWLAND R. HAZARD.
GEORGE W. HENARD.
HENRY I. HOYT.

WILLIAM M. IVES.
WILLIAM PARKER.
GEORGE W. STOCKLY.

ADVISORY BOARD.

JOHN W. BARROW.
CHARLES F. BRUSH.
ALBERT B. CHANDLER.
CHARLES A. CREEVER.
CHARLES R. FLINT.

H. SEYMOUR GRAY.
CALVIN GODDARD.
MARCELUS HARTLEY.
EDWARD H. JOHNSON.

MORTIMER D. LEGGETT.
ROBERT B. MINTURN.
JOSEPH J. SKINNER.
EDWARD WESTON.
WILLIAM C. WITTER.

OFFICERS.

ROWLAND R. HAZARD, President.
HENRY I. HOYT, Vice-President. ROBERT W. BLACKWELL, Treasurer.

THE GRAMME ELECTRICAL COMPANY

respectfully notifies all parties manufacturing or employing apparatus to obtain light or power or to plate by electricity, that the following existing letters patent of the United States, relating thereto, owned or controlled by it and by its several members—to wit:

- THE AMERICAN ELECTRIC COMPANY,
OF NEW BRITAIN, CONNECTICUT,
THE BRUSH ELECTRIC COMPANY, OF CLEVELAND, OHIO,
THE EDISON ELECTRIC LIGHT COMPANY, OF NEW YORK,
THE FULLER ELECTRICAL COMPANY, OF NEW YORK,
THE JABLOCHKOFF ELECTRIC LIGHTING COMPANY,
OF NEW YORK,
THE UNITED STATES ELECTRIC LIGHTING COMPANY,
OF NEW YORK, AND
THE WESTON ELECTRIC LIGHT COMPANY,
OF NEWARK, NEW JERSEY—

will be enforced against all parties infringing the same:

Farmer,	Dec. 12, 1865,	Thermo-electric battery,	51442
Farmer,	Nov. 29, 1870,	Thermo-electric battery,	109603
Farmer,	Apr. 18, 1871,	Thermo-electric pairs,	113864
Gramme & d'Ivernois,	Oct. 17, 1871,	Dynamo-electric machine,	120057
Gardiner,	Oct. 29, 1872,	Meter,	132569
Farmer,	Apr. 13, 1875,	Magneto-electric machine,	161874
Fuller,	Oct. 19, 1875,	Magneto-electric machine,	168893
Smith,	Feb. 15, 1876,	Magneto-electric machine,	173682
Weston,	Jul. 18, 1876,	Magneto-electric machine,	180082
Weston,	Oct. 3, 1876,	Dynamo-electric machine,	182977
Holcombe,	Dec. 5, 1876,	Magneto-electric machine,	184966
Brush,	Apr. 24, 1877,	Magneto-electric machine,	189997
Jablochkoff,	May 15, 1877,	Carbons,	190864

[ENCLOSURE]

Brush,	Oct. 23, 1877,	Metal-plated carbon,	196425	Thomson & Houston,	Oct. 14, 1879,	Regulator,	220508
Weston & Quimby,	Nov. 6, 1877,	Compound switch,	198846	Lecoq,	Nov. 4, 1879,	Dynamo-electric machine,	221327
Weston,	Feb. 26, 1878,	Dynamo-electric machine,	R. 8102	Holcombe,	Nov. 25, 1879,	Electric light apparatus,	221918
Weston,	Mar. 26, 1878,	Dynamo-electric machine,	R. 8141	Edison,	Dec. 23, 1879,	Magneto-electric machine,	222881
Weston,	Apr. 2, 1878,	Dynamo-electric machine,	201968	Thomson & Houston,	Jan. 13, 1880,	Dynamo-electric machine,	223557
Brush,	May 7, 1878,	Arc lamp,	203411	Houston & Thomson,	Jan. 20, 1880,	Regulator,	223646
Brush,	May 7, 1878,	Magneto-electric machine,	203412	Thomson & Thomson,	Jan. 20, 1880,	Armature and commutator,	223658
Brush,	May 7, 1878,	Armature,	203413	Thomson & Houston,	Jan. 27, 1880,	Magneto-electric machine,	223659
Maxim,	Sep. 24, 1878,	Arc lamp,	208552	Edison,	Feb. 10, 1880,	Incandescent lamp,	223958
Maxim,	Sep. 24, 1878,	Regulator,	208553	Edison,	Feb. 10, 1880,	Electric lighting apparatus,	224320
Weston,	Oct. 15, 1878,	Dynamo-electric machine,	209094	Brush,	Feb. 17, 1880,	Dynamo-electric apparatus,	224511
Weston,	Oct. 29, 1878,	Dynamo-electric machine,	209532	Weston,	Mar. 4, 1880,	Electric lamp,	225112
Fuller,	Nov. 26, 1878,	Meter,	210316	Edison,	May 4, 1880,	Safety conductor,	227226
Fuller,	Nov. 26, 1878,	Induction apparatus,	210317	Edison,	May 4, 1880,	Electric light,	227227
Weston,	Nov. 26, 1878,	Electric light,	210380	Edison,	May 4, 1880,	Electric light,	227228
Weston,	Jan. 14, 1879,	Dynamo-electric machine,	211311	Edison,	May 4, 1880,	Electric light,	227229
Brush,	Feb. 11, 1879,	Regulator,	212183	Keith,	May 4, 1880,	Regulator,	227264
Farmer,	Mar. 25, 1879,	Electric light,	213643	Maxim,	Jun. 8, 1880,	Dynamo-electric machine,	228543
Edison,	Apr. 22, 1879,	Electric light,	214636	Maxim,	Jun. 8, 1880,	Dynamo-electric machine,	228544
Edison,	Apr. 22, 1879,	Thermal regulator,	214637	Maxim,	Jun. 8, 1880,	Commutator,	228545
Brush,	May 20, 1879,	Arc lamp,	R. 8718	Maxim,	Jun. 8, 1880,	Brushes,	228546
Fuller,	May 27, 1879,	Electric candles,	215733	Edison,	Jun. 8, 1880,	Brake for elec.-mag. motors,	228617
Brush,	Jul. 22, 1879,	Dynamo-electric machine,	217677	Fuller & Mackintosh,	Jun. 29, 1880,	Arc lamp,	229246
Edison,	Aug. 5, 1879,	Magneto-electric machine,	218166	Keith,	Jun. 30, 1880,	Commutator,	229255
Edison,	Aug. 5, 1879,	Electric light,	218167	Edison,	Jul. 20, 1880,	Manuf'g incandescent lamps,	230255
Fuller,	Aug. 12, 1879,	Arc lamp,	218375	Maxim,	Jul. 20, 1880,	Manuf'g carbon conductors,	230309
Edison,	Aug. 26, 1879,	Electric lighting apparatus,	218866	Maxim,	Jul. 20, 1880,	Incandescent lamps,	230310
Jablochhoff,	Aug. 26, 1879,	Batteries,	219056	Moffitt,	Aug. 3, 1880,	Arc lamp,	230801
Houston & Thomson,	Sep. 2, 1879,	Dynamo-electric machine,	219157	Maxim,	Aug. 10, 1880,	Incandescent lamp,	230953
Brush,	Sep. 2, 1879,	Arc lamp,	219208	Maxim,	Aug. 10, 1880,	Removing air from globes,	230954
Brush,	Sep. 2, 1879,	Arc lamp,	219209	Lecoq,	Aug. 31, 1880,	Distributing currents,	231725
Brush,	Sep. 2, 1879,	Carbons,	219210	Wood,	Aug. 31, 1880,	Magneto-electric machine,	231745
Brush,	Sep. 2, 1879,	Electric lighting devices,	219211	Holcombe,	Sep. 21, 1880,	Magneto-electric machine,	232498
Brush,	Sep. 2, 1879,	Electric light apparatus,	219212	Thomson & Houston,	Oct. 5, 1880,	Dynamo-electric machine,	232910
Brush,	Sep. 2, 1879,	Regulating device,	219213	Thomson,	Oct. 5, 1880,	Dynamo-electric machine,	233047
Edison,	Sep. 9, 1879,	Dynamo-electric machine,	219391	Brush,	Oct. 12, 1880,	Magneto-electric machine,	R 9410
Edison,	Sep. 16, 1879,	Electric lights,	219628	Holcombe,	Oct. 12, 1880,	Electric light,	233096
Houston & Thomson,	Oct. 7, 1879,	Regulator,	220287	Wood,	Oct. 19, 1880,	Arc lamp,	233589

Weston,	Oct. 26, 1880,	Dynamo-electric machine,	213823	Wood,	Jul. 5, 1881,	Magneto-electric machine,	241747
Maxim,	Nov. 2, 1880,	Dynamo-electric machine,	213942	Brady,	Jul. 5, 1881,	Mach. for winding armatures,	241844
Weston,	Nov. 16, 1880,	Rotating armature,	234443	Kartzmark,	Jul. 12, 1881,	Globe holder,	244355
Brush,	Nov. 16, 1880,	Automatic cut-out apparatus,	234456	Maxim,	Jul. 12, 1881,	Incandescent lamp,	244277
Sarcia,	Nov. 16, 1880,	Electric light burner,	234518	Stanley,	Jul. 12, 1881,	Circuit closer,	244331
Maxim,	Nov. 23, 1880,	Arc lamp,	234835	Kartzmark,	Jul. 19, 1881,	Lamp holder,	244462
Nichols,	Jan. 18, 1881,	Incandescent lamp,	235833	Tregoning & Maxim,	Jul. 19, 1881,	Carbon holder,	244501
Maxim,	Feb. 1, 1881,	Incandescent lamp,	237198	Wood,	Aug. 2, 1881,	Magneto-electric machine,	245040
Edison,	Feb. 15, 1881,	Electric light,	237374	Weston,	Aug. 16, 1881,	Ventilating armatures,	245900
Thomson & Houston,	Mar. 1, 1881,	Current regulator,	238315	Keith,	Aug. 16, 1881,	Magneto-electric machine,	245927
Edison,	Mar. 15, 1881,	Manufacture of carbons,	238688	Keith,	Aug. 30, 1881,	Electric light,	246517
Edison,	Mar. 22, 1881,	System of electric lighting,	239147	Jacoba,	Sep. 6, 1881,	Commutator,	246612
Edison,	Mar. 22, 1881,	Treating carbons,	239148	Maxim,	Sep. 13, 1881,	Manufacturing carbons,	247083
Edison,	Mar. 22, 1881,	Incandescent lamp,	239149	Maxim,	Sep. 13, 1881,	Manuf'g carbon conductors,	247084
Edison,	Mar. 22, 1881,	Incandescent lamp,	239150	Maxim,	Sep. 13, 1881,	Manuf'g carbon conductors,	247085
Edison,	Mar. 22, 1881,	Carbon filaments,	239151	Maxim,	Sep. 13, 1881,	Chandler,	247086
Edison,	Mar. 22, 1881,	System of electric lighting,	239152	Nichols & Latimer,	Sep. 13, 1881,	Incandescent lamp,	247097
Edison,	Mar. 22, 1881,	Incandescent lamp,	239153	Maxim,	Sep. 20, 1881,	Incandescent lamp,	247380
Brush,	Mar. 29, 1881,	Reflector,	239311	Edison,	Oct. 18, 1881,	Manufacturing carbons,	248416
Brush,	Mar. 29, 1881,	Reflector,	239312	Edison,	Oct. 18, 1881,	Incandescent lamp,	248417
Brush,	Mar. 29, 1881,	Current governor,	239313	Edison,	Oct. 18, 1881,	Incandescent lamp,	248418
Edison & Bachelor,	Mar. 29, 1881,	Testing carbons,	239372	Edison,	Oct. 18, 1881,	Incandescent lamp,	248419
Edison,	Mar. 29, 1881,	Incandescent lamp,	239373	Edison,	Oct. 18, 1881,	Fixture and attachment,	248420
Edison,	Mar. 29, 1881,	Regulating currents,	239374	Edison,	Oct. 18, 1881,	Current regulator,	248421
Maxim,	Mar. 29, 1881,	M ^g phosphoric anhydride,	239394	Edison,	Oct. 18, 1881,	System of electric lighting,	248422
Edison,	Apr. 5, 1881,	Incandescent lamp,	239745	Edison,	Oct. 18, 1881,	Carbonizer,	248423
Weston,	Apr. 12, 1881,	Arc lamp,	240210	Edison,	Oct. 18, 1881,	Fitting and fixture,	248424
Weston,	Apr. 12, 1881,	Device for equalizing arcs,	240211	Edison,	Oct. 18, 1881,	High vacuum apparatus,	248425
Edison,	Apr. 26, 1881,	Weber meter,	240678	Edison,	Oct. 18, 1881,	Apparatus for treating carbons,	248426
Keith,	Jun. 7, 1881,	Arc lamp,	241137	Edison,	Oct. 18, 1881,	Apparatus for treating carbons,	248427
Thomson,	Jun. 7, 1881,	Commutators,	241488	Edison,	Oct. 18, 1881,	Manuf. of incandescent lamps,	248428
Edison,	Jun. 14, 1881,	Incandescent lamp,	242856	Edison,	Oct. 18, 1881,	Manuf. of incandescent lamps,	248429
Edison,	Jun. 14, 1881,	Incandescent lamp,	242857	Edison,	Oct. 18, 1881,	Electro-magnetic brush,	248430
Edison,	Jun. 14, 1881,	Magneto or dyn.-elec. mach.,	242858	Edison,	Oct. 18, 1881,	Vacuum apparatus,	248431
Edison,	Jun. 14, 1881,	Electric lighting,	242859	Edison,	Oct. 18, 1881,	Governor,	248434
Edison,	Jun. 14, 1881,	Manufacturing carbons,	242900	Edison,	Oct. 18, 1881,	Motive power,	248435
Edison,	Jun. 14, 1881,	Meter,	242901	Edison,	Oct. 18, 1881,	Depositing-cell,	248436
Wood,	Jul. 5, 1881,	Dynamo-electric machine,	243746	Edison,	Oct. 18, 1881,	Apparatus for treating carbons,	248437

Jablochkoff,	Oct. 25, 1881,	Secondary battery,	248654	Fuller,	Jan. 31, 1882,	Automatic cut-out,	253032
Jablochkoff,	Nov. 15, 1881,	Arc lamp,	R. 9935	Fuller,	Jan. 31, 1882,	Arc lamp,	253033
Thomson,	Nov. 29, 1881,	Electro-magnetic device,	250175	Tregoning,	Feb. 7, 1882,	Carbon-holder,	253324
Thomson,	Dec. 6, 1881,	Arc lamp,	250463	Waterhouse,	Feb. 7, 1882,	Arc lamp,	253327
Edison,	Dec. 27, 1881,	Vacuum pump,	251536	Waterhouse,	Feb. 7, 1882,	Arc lamp,	253328
Edison,	Dec. 27, 1881,	Dynamo-electric machine,	251537	Farmer,	Feb. 14, 1882,	Electric lighting apparatus,	253817
Edison,	Dec. 27, 1881,	Electric light,	251538	Thomson,	Feb. 21, 1882,	Incandescent lamp,	253938
Edison,	Dec. 27, 1881,	Incandescent lamp,	251539	Maxim,	Feb. 21, 1882,	Incandescent lamp,	254039
Edison,	Dec. 27, 1881,	Carbon,	251540	Maxim,	Mar. 7, 1882,	Carbon,	254743
Edison,	Dec. 27, 1881,	Electro-magnetic motor,	251541	Waterhouse,	Mar. 7, 1882,	Electro-magnet,	254745
Edison,	Dec. 27, 1881,	System of electric lighting,	251542	Jackson,	Mar. 7, 1882,	Journal lubricator,	254771
Edison,	Dec. 27, 1881,	Incandescent lamp,	251543	Scribner,	Mar. 7, 1882,	Incandescent lamp,	254780
Edison,	Dec. 27, 1881,	Manufacture of electric lamps,	251544	Curtis & Weston,	Mar. 21, 1882,	Arc lamp,	255148
Edison,	Dec. 27, 1881,	Meter,	251545	Olmsted,	Mar. 21, 1882,	Arc lamp,	255186
Edison,	Dec. 27, 1881,	Incandescent lamp,	251546	Tregoning & Latimer,	Mar. 21, 1882,	Globe supporter,	255212
Edison,	Dec. 27, 1881,	Governor,	251547	Waterhouse,	Mar. 21, 1882,	Arc lamp,	255223
Edison,	Dec. 27, 1881,	Incandescent lamp,	251548	Weston & Curtis,	Mar. 21, 1882,	Arc lamp,	255225
Edison,	Dec. 27, 1881,	Incandescent lamp and man'g,	251549	Maxim,	Mar. 21, 1882,	Incandescent lamp,	255304
Edison,	Dec. 27, 1881,	Magneto or dyn.-elec. mach.,	251550	Maxim,	Mar. 21, 1882,	Arc lamp,	255305
Edison,	Dec. 27, 1881,	System of electric lighting,	251551	Maxim,	Mar. 21, 1882,	Meter,	255306
Edison,	Dec. 27, 1881,	Underground conductor,	251552	Maxim,	Mar. 21, 1882,	Meter,	255307
Edison,	Dec. 27, 1881,	Chandeller,	251553	Maxim,	Mar. 21, 1882,	Meter,	255308
Edison,	Dec. 27, 1881,	Incandescent lamp and socket,	251554	Maxim,	Mar. 21, 1882,	Manufacture of carbons,	255309
Edison,	Dec. 27, 1881,	Regulator,	251555	Maxim,	Mar. 21, 1882,	Speed regulator,	255310
Edison,	Dec. 27, 1881,	Regulator,	251555	Maxim,	Mar. 21, 1882,	Regulator,	255311
Edison,	Dec. 27, 1881,	Weber meter,	251557	Maxim,	Mar. 21, 1882,	Electrical engineering,	255312
Edison,	Dec. 27, 1881,	Weber meter,	251558	Weston,	Mar. 21, 1882,	Absorbent,	255362
Edison,	Dec. 27, 1881,	Drop light,	251559	Weston,	Mar. 21, 1882,	Incandescent lamp,	255393
Böhm,	Jan. 17, 1882,	Carbon conductors,	252431	Weston,	Mar. 21, 1882,	Dynamo-electric machine,	255395
Farmer,	Jan. 17, 1882,	Lamp,	252432	Weston,	Mar. 21, 1882,	Electro-magnet,	255396
Latimer,	Jan. 17, 1882,	Manufacturing carbons,	252436	Weston,	Mar. 21, 1882,	Dynamo-electric machine,	255397
Maxim,	Jan. 17, 1882,	Incandescent lamp,	252439	Kelly,	Mar. 21, 1882,	Electro-magnetic machine,	255398
Maxim,	Jan. 17, 1882,	Incandescent lamp,	252440	Keilh,	Apr. 4, 1882,	Regulator,	255795
Waterhouse,	Jan. 17, 1882,	Carbon-holder,	252404	Thomson,	Apr. 4, 1882,	System of electric lighting,	255824
Waterhouse,	Jan. 17, 1882,	Commutator,	252405	Wood,	Apr. 4, 1882,	Arc lamp,	256091
Farmer,	Jan. 24, 1882,	Electric lighting apparatus,	252448	Thomson,	Apr. 18, 1882,	Arc lamp,	256095
Farmer,	Jan. 24, 1882,	Electric lighting system,	252436	Houston,	Apr. 18, 1882,	Automatic cut-out,	256693
Maxim,	Jan. 24, 1882,	Lamp,	252440	Weston,	Apr. 18, 1882,	Dynamo-electric machine,	256778



Maxim,	Apr. 25, 1882,	Generation & distribution,	256910	Edison,	Aug. 22, 1882,	Regulator,	263136
Sollings,	May 9, 1882,	Electric candle,	257776	Edison,	Aug. 22, 1882,	Chandelier,	263137
Wood,	May 9, 1882,	Regulator,	257800	Edison,	Aug. 22, 1882,	Arc lamp,	263138
Wright,	May 23, 1882,	Safety device,	258221	Edison,	Aug. 22, 1882,	Manufacture of carbons,	263139
Houston,	May 30, 1882,	Dynamo-electric machine,	258548	Edison,	Aug. 22, 1882,	Dynamo-electric machine,	263140
Houston,	May 30, 1882,	Dynamo-electric machine,	258549	Edison,	Aug. 22, 1882,	Straightening carbons,	263141
Thomson,	May 30, 1882,	Arc lamp,	258684	Edison,	Aug. 22, 1882,	Electric distribution system,	263142
Farmer,	Jun. 6, 1882,	Incandescent lamp,	258903	Edison,	Aug. 22, 1882,	Magneto or dyn.-elec. mach.,	263143
Nichols,	Jun. 6, 1882,	Carbon,	258942	Edison,	Aug. 22, 1882,	Carbonizing mold,	263144
Nichols,	Jun. 6, 1882,	Incandescent lamp,	258943	Edison,	Aug. 22, 1882,	Making incandescents,	263145
Weston,	Jun. 6, 1882,	Arc lamp,	258964	Edison,	Aug. 22, 1882,	Dynamo or mag.-elec. mach.,	263146
Weston,	Jun. 6, 1882,	Lamp bracket,	258965	Edison,	Aug. 22, 1882,	Vacuum apparatus,	263147
Weston,	Jun. 6, 1882,	Incandescent lamp,	258966	Edison,	Aug. 22, 1882,	Dynamo or mag.-elec. mach.,	263148
Houston,	Jun. 6, 1882,	Incandescent lamp,	259017	Edison,	Aug. 22, 1882,	Commutator,	263149
Waterhouse,	Jun. 13, 1882,	Device for Arc lamps,	259612	Edison,	Aug. 22, 1882,	Magneto or dyn.-elec. mach.,	263150
Weston,	Jun. 13, 1882,	Safety device,	259614	Olmsted,	Aug. 22, 1882,	Arc lamp,	263166
Weston,	Jun. 13, 1882,	Safety device,	259615	Brush,	Sep. 5, 1882,	Secondary battery element,	263226
Weston,	Jun. 13, 1882,	Safety device,	259616	Brush,	Sep. 5, 1882,	Straightening carbon rods,	263257
Weston,	Jun. 13, 1882,	Dynamo-electric machine,	259617	Brush,	Sep. 5, 1882,	Baking carbon rods,	263258
Weston,	Jun. 13, 1882,	Dynamo-electric machine,	259618	Nichols,	Sep. 5, 1882,	Incandescent lamp,	263261
Brush,	Jul. 4, 1882,	Current governor,	260650	Weston,	Sep. 5, 1882,	Incandescent lamp bracket,	263287
Brush,	Jul. 4, 1882,	Thermic regulator,	260651	Weston,	Sep. 5, 1882,	Incandescent lamp bracket,	263288
Brush,	Jul. 4, 1882,	Dynamo-electric machine,	260652	Weston,	Sep. 5, 1882,	Incandescent lamp bracket,	263289
Brush,	Jul. 4, 1882,	Secondary battery,	260653	Weston,	Sep. 5, 1882,	Manufg carbon conductors,	263290
Brush,	Jul. 4, 1882,	Secondary battery,	260654	Edison,	Sep. 5, 1882,	Incandescent lamp,	263298
Thomson,	Jul. 11, 1882,	Arc lamp,	261077	Weston,	Sep. 5, 1882,	Arc lamp,	264000
Brush,	Jul. 11, 1882,	Electric circuit system,	261288	Maxim,	Sep. 12, 1882,	Treating carbon conductors,	264048
Wood,	Jul. 18, 1882,	Coupling,	261288	Edison,	Sep. 19, 1882,	Secondary battery,	264111
Wood,	Jul. 18, 1882,	Cut-out,	261289	Brush,	Sep. 19, 1882,	Distribution & transmission,	264542
Brush,	Jul. 18, 1882,	Secondary battery,	261512	Edison,	Sep. 19, 1882,	Magneto-electric machine,	264543
Maxim,	Jul. 25, 1882,	Incandescent lamps & carbons,	261741	Edison,	Sep. 19, 1882,	Dynamo or conductors,	264545
Thomson,	Jul. 25, 1882,	Arc lamp,	261790	Edison,	Sep. 19, 1882,	Dynamo or mag.-elec. mach.,	264546
Brush,	Aug. 1, 1882,	Secondary battery,	261905	Edison,	Sep. 19, 1882,	Dynamo or mag.-elec. mach.,	264547
Wood,	Aug. 8, 1882,	Armature,	262259	Edison,	Sep. 19, 1882,	Dynamo or mag.-elec. mach.,	264548
Brush,	Aug. 8, 1882,	Secondary battery elements,	262533	Edison,	Sep. 19, 1882,	Dynamo or mag.-elec. mach.,	264549
Edison,	Aug. 22, 1882,	Dynamo or mag-elec. mach.,	263133	Edison,	Sep. 19, 1882,	Manuf. of incandescent lamps,	264550
Edison,	Aug. 22, 1882,	Regulator,	263134	Edison,	Sep. 19, 1882,	Incandescent lamp,	264551
Edison,	Aug. 22, 1882,	Incandescent lamp,	263135	Edison,	Sep. 19, 1882,	Incandescent lamp,	264552

Edison,	Sep. 19, 1882,	Incandescent lamp,	264653
Edison,	Sep. 19, 1882,	Incandescent lamp,	264654
Edison,	Sep. 19, 1882,	Incandescent lamp,	264655
Edison,	Sep. 19, 1882,	Incandescent lamp,	264656
Edison,	Sep. 19, 1882,	Incandescent lamp,	264657
Edison,	Sep. 19, 1882,	Regulator,	264658
Edison,	Sep. 19, 1882,	Regulator,	264659
Edison,	Sep. 19, 1882,	Regulator,	264660
Edison,	Sep. 19, 1882,	Regulator,	264661
Edison,	Sep. 19, 1882,	Regulator,	264662
Edison,	Sep. 19, 1882,	Regulator,	264663
Edison,	Sep. 19, 1882,	Regulator,	264664
Edison,	Sep. 19, 1882,	Regulator,	264665
Edison,	Sep. 19, 1882,	Regulator,	264666
Edison,	Sep. 19, 1882,	Regulator,	264667
Edison,	Sep. 19, 1882,	Regulator,	264668
Edison,	Sep. 19, 1882,	Regulator,	264669
Edison,	Sep. 19, 1882,	Regulator,	264670
Edison,	Sep. 19, 1882,	Regulator,	264671
Edison,	Sep. 19, 1882,	Regulator,	264672
Edison,	Sep. 19, 1882,	Regulator,	264673
Holzer,	Sep. 19, 1882,	Incandescent lamp,	264678
Mott,	Sep. 19, 1882,	Incandescent lamp,	264737
Barnes,	Sep. 26, 1882,	Incandescent lamp socket,	264919
Maxim,	Sep. 26, 1882,	Incandescent lamps,	264951
Maxim,	Sep. 26, 1882,	Forming storage batteries,	264952
Weston,	Sep. 26, 1882,	Arc lamp,	264978
Weston,	Sep. 26, 1882,	Automatic cut-off,	264979
Weston,	Sep. 26, 1882,	Regulator,	264980
Weston,	Sep. 26, 1882,	Transmission of power,	264981
Weston,	Sep. 26, 1882,	Electro-magnetic motor,	264982
Weston,	Sep. 26, 1882,	Transmission of power,	264983
Weston,	Sep. 26, 1882,	Shunting attachment,	264984
Weston,	Sep. 26, 1882,	Carbon,	264985
Weston,	Sep. 26, 1882,	Carbon conductor,	264986
Weston,	Sep. 26, 1882,	Manufacture of carbon,	264988
Edison,	Oct. 3, 1882,	Lamp and holder,	265311
Edison,	Oct. 10, 1882,	Weber meters,	265774

Edison,	Oct. 10, 1882,	Arc light,	265775
Edison,	Oct. 10, 1882,	System,	265776
Edison,	Oct. 10, 1882,	Electric carbon,	265777
Edison,	Oct. 10, 1882,	Elec.-mag. railway engine,	265778
Edison,	Oct. 10, 1882,	Regulator,	265779
Edison,	Oct. 10, 1882,	Regulator,	265780
Edison,	Oct. 10, 1882,	Regulator,	265781
Edison,	Oct. 10, 1882,	Regulator,	265782
Edison,	Oct. 10, 1882,	Regulator,	265783
Edison,	Oct. 10, 1882,	Regulator,	265784
Edison,	Oct. 10, 1882,	Dynamo-electric machine,	265785
Edison,	Oct. 10, 1882,	Transmission of power,	265786
Farmer,	Oct. 10, 1882,	Lamp,	265790
Ott,	Oct. 10, 1882,	Regulator,	265819
Ott,	Oct. 10, 1882,	Regulator,	265820
Thomson,	Oct. 10, 1882,	Preventing flashing,	265936
Thomson,	Oct. 10, 1882,	Regulator	265937
Thomson,	Oct. 17, 1882,	Arc light,	265993
Thomson,	Oct. 17, 1882,	Secondary battery element,	266089
Brush,	Oct. 17, 1882,	Secondary battery,	266090
Brush,	Oct. 17, 1882,	Manuf. of incandescent lamps,	266187
Nichols,	Oct. 17, 1882,	Suspending arc lamps,	266234
Waterhouse,	Oct. 17, 1882,	Magneto or dyn.-elec. mach.,	266235
Waterhouse,	Oct. 17, 1882,	Carbon-holder,	266236
Weston,	Oct. 17, 1882,	Transmission of power,	266239
Weston,	Oct. 17, 1882,	Arc lamp,	266240
Weston,	Oct. 17, 1882,	Cut-out,	266241
Weston,	Oct. 17, 1882,	Lamp,	266242
Weston,	Oct. 17, 1882,	Dynamo or mag.-elec. mach.,	266243
Weston,	Oct. 17, 1882,	Indicator,	266244
Edison,	Oct. 24, 1882,	Incandescent lamp,	266447
Edison,	Oct. 24, 1882,	Vacuum apparatus,	266588

[ENCLOSURE]

*Gramme
Combinations*

New York, Nov. 1st, 1882.

To _____

1882-11-8
 RECEIVED
 NOV 8 1882
 ANSWERED
 FILE NO. 9

Mr. Edison
 You may be interested in reading the letter which
 has just reached me from Mr. Bliss. Please answer it after reading
 it.
 S. B. Eaton
 November 3rd., 1882., per No. 6.

THE EDISON ELECTRIC LIGHT CO.,
 65 FIFTH AVENUE.

New York, Nov. 3rd, 1882

*check
 made 11/10*

J. F. Randolph
 Menlo Park N.J.
 Dear Sir:

Please ascertain from
 your accounts when bill
 was rendered for dynamo
 machines and plant in
 S. S. Columbia, and please
 make and send me as soon
 as possible a copy of the
 bill rendered.

Yours very truly
 J. Goddard

ak R

Form No. 1.

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been associated to by the sender of the following message. Errors can be avoided except only by repeating a message back to the sending station for correction, and the necessary will not be held liable for errors or delays after sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions stated above.

TELE. T. SERVICE, General Message. MORVIN GILKEN, President.

NUMBER	SENT BY	RECD BY	CHARGE
47	Am	By	Staid

Received at **791 BROADWAY.** 9 10

Dated *Harriestown Heights N.Y.* Nov 4 1882

To *Mrs. Inaill*

65 fifth Ave. N.Y.

Will be at sixty five

soon after twelve

G. P. Lowrey

This telegram has just been received at the office in 791 BROADWAY, near South Street, where any reply should be sent.

DIRECT WIRE.

Mr. Edison,

This memo. answers your question about the steamship.

Columbia.

S. B. Eaton

Nov. 4th. 1882.

per Mc.G.

[ENCLOSURE]

My Eaton:

The S. S. Columbia
ofc was paid July
1st 1880. A copy
of the bill can
only be procured
from Allen Park
books. I have written
for a copy, and
will send it to
you as soon as
received.

Stitchinson

[ENCLOSURE]

34

Nov 11, 82

Abelstinson

Bo

Mr. Edison,

Memo. L is another just received from Col. Hazard.

Please tear it up after reading it.

Memo. L L is also an item from Hazard. It refers to Mr. Montgomery. Please tear it up after reading.

S. B. Eaton

November 8th, 1892.

per H.C.6.

[ENCLOSURE]

I hear that the "Daff" people have completed a locomotive at Greenville, N.Y. and have had the projectors of the U.S. Underground Railway down to attend an exhibition of it. I have written you some information, but perhaps you already know all about it?

In regard to the Brush-Swan Coy. he says that he will, on his return, make an exhibition here, with the new accumulator of Brush, and that he will burn incandescent Swan lamps of from 2 1/2 to 250. (and if they are finished in time, 500 candle power.) from previously stored accumulators.

all of which, &c.

Yours sincerely,
S. B. Eaton

Mr. Edison,

Here are some copies of the list of patents published
by the Gramme Company, for your files.

S. B. Eaton

November 8th. 1892.

per Mc.G.

Mr. Edison,

The subject of manufacturing will come up at the next meeting of the Board of Directors. In that connection the question will no doubt be asked, how much money is at present invested in manufacturing? I should like to be able to answer that question by written authority from you, if you see no objection to it.

If you think best, please give me the following information.

- (1) How much money is invested in real estate in each one of the three factories? ✓
- (2) How much is invested in plant. ✓
- (3) How much is invested in carrying finished product also product in course of manufacture. ✓
- (4) Assuming that the Light Company shall have become owner of each one of the three factories, how much as regards each factory specifically will be required in money as a working capital?

The above information relates only to Goerck St., the Tube Works and the Lamp Factory. If you have no objection I should like to have it also refer to Bergmann's. Will you give me the same information as regards Bergmann if you think best?

S. B. Eaton

November 8th. 1892.

per Mc.G.

Mr. Edison,

This is an additional notice which I have had prepared to serve upon all the other electric light companies. We served a similar notice on them heretofore. Please keep them for your files.

S. B. Eaton

November 8th. 1892.

per Mc.G.

RECEIVED
NOV 8 1892
ANSWERED

WIRE No. 188

[ENCLOSURE]

—OFFICE OF—
The Edison Electric Light Company,
 65 FIFTH AVENUE.

New York, _____ 1882.

In addition to the list of patents included in our notice served upon your Company _____ 1882, of which we enclose duplicates herewith, we now beg to advise you that this Company is the Owner, by proper assignments, of the entire right, title and interest in and to the following additional Letters Patent of the United States; and in and to the Inventions set forth and claimed therein.

Number.	Date.	Title of Patent.
218,100	Aug. 5, 1879	Improvement in Magneto-electric machines.
248,490	Oct. 13, 1881	Electro-magnetic Brake.
263,122	Aug. 22, 1882	Electro-magnetic Railways.
263,123	" 22, "	Dynamo or Magneto-electric machine.
263,124	" 22, "	Regulator for dynamo or magneto-electric machines.
263,125	" 22, "	Electric Lamp.
263,126	" 22, "	Regulator for dynamo or magneto-electric machines.
263,127	" 22, "	Electric chandelier.
263,128	" 22, "	Electric arc light.
263,129	" 22, "	Manufacture of carbons for electric lamps.
263,140	" 22, "	Dynamo-electric machine.
263,141	" 22, "	Straightening carbons of electric incandescence lamps.
263,142	" 22, "	Electrical distribution system.
263,143	" 22, "	Magneto or dynamo-electric machine.
263,144	" 22, "	Mold for carbonizing incandescents.
263,145	" 22, "	Making incandescents.
263,146	" 22, "	Dynamo or magneto-electric machines.
263,147	" 22, "	Vacuum apparatus.
263,148	" 22, "	Dynamo or magneto-electric machine.
263,149	" 22, "	Commutator for dynamo or magneto-electric machines.
263,150	" 22, "	Magneto or dynamo-electric machine.
263,878	Sept. 5, "	Electric Lamps.
264,042	" 10, "	Electric distribution and translation system.
264,043	" 10, "	Magneto-electric machine.
264,045	" 10, "	System of conductors for the distribution of electricity.
264,046	" 10, "	Dynamo or magneto-electric machine.
264,047	" 10, "	Dynamo or magneto-electric machine.
264,048	" 10, "	Dynamo or magneto-electric machine.
264,049	" 10, "	Dynamo or magneto-electric machine.
264,050	" 19, "	Manufacture of incandescing electric lamps.
264,551	" 19, "	Incandescing Electric Lamp.

[ENCLOSURE]

Number.	Date.	Title of Patent.
264,652	" 19, "	Incandescent Electric Lamp.
264,653	" 19, "	Incandescent Electric Lamp.
264,654	" 19, "	Incandescent Electric Lamp.
264,655	" 19, "	Incandescent Electric Lamp.
264,656	" 19, "	Incandescent Electric Lamp.
264,657	" 19, "	Incandescent Electric Lamp.
264,658	" 19, "	Regulator for dynamo-electric machines.
264,659	" 19, "	Regulator for dynamo-electric machines.
264,660	" 19, "	Regulator for dynamo-electric machines.
264,661	" 19, "	Regulator for dynamo-electric machines.
264,662	" 19, "	Regulator for dynamo-electric machines.
264,663	" 19, "	Regulator for dynamo-electric machines.
264,664	" 19, "	Regulator for dynamo-electric machines.
264,665	" 19, "	Regulator for dynamo-electric machines.
264,666	" 19, "	Regulator for dynamo-electric machines.
264,667	" 19, "	Regulator for dynamo-electric machines.
264,668	" 19, "	Regulator for dynamo-electric machines.
264,669	" 19, "	Regulator for dynamo-electric machines.
264,670	" 19, "	Regulator for dynamo-electric machines.
264,671	" 19, "	Regulator for dynamo-electric machines.
264,672	" 19, "	Regulator for dynamo-electric machines.
264,673	" 19, "	Regulator for dynamo-electric machines.
264,674	" 19, "	Regulator for dynamo-electric machines.
264,675	" 19, "	Electric lamp.
264,676	" 19, "	Incandescent electric lamp.
265,111	Oct. 2, "	Electric lamps and holders for same.
265,774	" 10, "	Method of Maintaining Temperature in Webermeters.
265,775	" 10, "	Electric Arc Light.
265,776	" 10, "	Electric Lighting System.
265,777	" 10, "	Method of Treating Carbons for Electric Lamps.
265,778	" 10, "	Electro Magnetic Railway Engines.
265,779	" 10, "	Regulator for dynamo-electric machines.
265,780	" 10, "	Regulator for dynamo-electric machines.
265,781	" 10, "	Regulator for dynamo-electric machines.
265,782	" 10, "	Regulator for dynamo-electric machines.
265,783	" 10, "	Regulator for dynamo-electric machines.
265,784	" 10, "	Regulator for dynamo-electric machines.
265,785	" 10, "	Dynamo-electric Machine.
265,786	" 10, "	Apparatus for the Electrical Transmission of Power.
265,888	" 10, "	Regulator for dynamo-electric machines.
265,890	" 10, "	Regulator for dynamo-electric machines.
266,447	" 24, "	Electric Incandescent lamps.
266,588	" 24, "	Vacuum Apparatus.

[ENCLOSURE]

The inventions therein claimed pertain to the Generation, Regulation, Distribution, Measurement and Utilization of Electric Currents for Light and Motive Power purposes.

They embrace improvements in Generators, in their arrangement and in means and methods for Regulating or Controlling their generative capacity; in Conductors for distributing the current; in "Safety Catches;" in Junction Boxes; in Meters; in Motors; in Incandescent Lamps and in Sockets, Brackets, Chandeliers; Shades and other fittings or fixtures therefor; in arrangements of Conductors into Systems; in Systems of Lighting and in other matters, for a full knowledge of which reference may be had to the patents themselves.

The improvements in Lamps relate to Materials used therefor, to characteristics of the Incandescing Conductor, to the methods of treatment of the Materials, to means for such treatment, to methods of manufacture, to a complete lamp and to individual parts thereof, all as fully set forth in the patents relating thereto in the list above given.

This Company has been led to understand that other parties are now proposing to engage in the business of Incandescent Electric Lighting, to manufacture and put upon the market Incandescent Electric Lamps which in themselves, or in their manufacture, or in the arrangements for Generation, Regulation, Distribution, Measurement and Utilization (either or all) connected therewith, will infringe certain features covered by patents noted in the list herewith given.

Now therefore, this Company gives notice to any and all such parties, and to any and all parties who may hereafter propose to enter upon the business of electric lighting by means of incandescent lamps, or of furnishing electric power or lights; that if, in so doing, they infringe in any particular whatever, any of the patents herein-before noted, or any patent that may be hereafter owned by this Company, this Company will proceed against every such party for the full legal enforcement of each and every patent infringed.

Mr. Edison,

Here is a cable received by me this morning from Bailey. As I understand it it is in substance as follows:

Regarding interest on the European Company's bonds, I will return to Paris by the end of next week, and will then take care of that matter. At present I am engaged in preparing to form a company at Berlin with ten millions marks capital. Cable me the price of the skin machine and the date when it will be ready."

The above is the substance of the cablegram as I understand it.

Please tell me the date when the skin machine will be ready and what the price will be.

November 9th, 1882.

S. B. Eaton
per Mc.C.

THOMAS A. EDISON,
No. 65 FIFTH AVENUE.

NEW YORK *Nov. 9-* 1882

Maj. S. B. Eaton
President
65-5 Ave. City

Dear Sir,

Referring to the enclosed cablegram. Work is being continued on the "skin" machine but not sufficiently advanced to set a price or time of completion.

Shall I send Mr. Bailey and save you the answer?

Yours Truly,
T. A. Edison

TE

Have answered
W

Mr. Edison,	
	Here is the way to spend as regards money last Saturday.
	Please tear it up after reading it.
	S. P. Eaton
November 18th, 1882.	per Mr. E.

[ENCLOSURE]

-BANK BALANCES.-

Morning of Nov. 11th 1882

LIGHT CO.	{ Drexel, Morgan & Co. - -	572.46
	{ Bank of Metropolis - - -	136.70
	TOTAL, - - -	
ILLUMINATING CO.	{ Drexel, Morgan & Co. <i>amt</i> - -	20,528.88
	{ Bank of Metropolis - - -	403.80
	TOTAL <i>short</i> - - -	20,125.48
ISOLATED CO.	{ Drexel, Morgan & Co. - -	304.1
	{ Madison Square Bank - - -	19,731.03
	TOTAL, - - -	19,764.44

Mr. Edison,

Inshall is getting it

Our Directors meet Thursday night. It will take at least two days to get the matters in hand to explain to them. Can I have the figures for the factories tomorrow? I refer to Goerck St., the Tube Works, the Lamp Factory and Bergmann's? I ought to have them tomorrow morning if possible. Tomorrow night would do.

S. B. Eaton

November 13th. 1882.

per Mc.G.

Mr. Edison,

Moore and I had a conference with Brewster yesterday. Brewster is to come in again on Monday, by which time we are to decide how much we can afford to pay him for the present. He said he could let the matter lay over until Monday. My present impression is that we may offer him \$100 a month for the present and until the village plant is running successfully.

S. B. Eaton

Nov. 15th. 1882. per Mc.G.

Mr. Edison,

A friend of a personal friend of mine called this morning to tell me that the united gas companies of this city had sent an expert to London to make a report upon the Siemen's gas burner. The price of the burner (patented) for the United States is \$300,000. The united gas companies of New York have agreed to buy it provided their expert sent to London finds that it stands the tests claimed for it.

S. B. Eaton

November 16th. 1882.

per Mc.G.

True
Mr. Edison,

A Tribune reporter called upon me this afternoon and showed me an affidavit from William E. Sawyer, stating that he is the inventor of the Edison light, that the Edison light is a complete failure and cannot be furnished at four times the price of gas and that he has a little device which he can give to consumers to demonstrate the utter worthlessness of the light. The reporter also called my attention to a notice in today's Tribune of Prof. Draper. The reporter says that the Tribune people understand that Draper invented a good deal of your light. The reporter interviewed me. The Draper matter I touched with great delicacy out of respect to Draper's memory. As regards Sawyer, I made no attack upon him, as I think he can beat us both in blackguarding and in lying. But I gave the reporter a good array of facts and figures and if he prints what I gave him it will make a fine showing for us.

S. B. Eaton

Nov. 21st.

per H.C.G.

Mr. Edison,

Cutting has returned from Europe. He has been away six months. I met him to day and he was looking well. I told him he had been dropped from the Board of Directors of the Light Co. but that he was still in the Ill. Co.

S. B. Eaton

November 23rd, 1882.

per H.C.G.

Nov 23 1882
per H.C.G.

Mr. Edison,

Prof. Horton has an article in the December number of Harper's Monthly Magazine on storage batteries. It is an elementary article, written for the unscientific reader. It seems to me to be fair and impartial. He mentions Faure and Plante. He does not mention Brush and Swan.

S. R. Eaton

November 23rd, 1882.

per No. 6.

Mr. Edison,

Here is the article in the American Gas Light Journal referred to. Also their issue of October 16th. Please return them both after you read them.

S. R. Eaton

November 23rd, 1882.

per No. 6.

Mr. Edison,

Mr. Clarke has made a few changes in Pres. Morton's pamphlet. I send you the pamphlet with Mr. Clarke's changes in his own handwriting. You will find them scattered through the ~~book~~ on the margin. Please return me this pamphlet of M. Clarke.

S. B. Eaton

November 27th. 1882.

per Mc.G.

Mr. Edison,

Mr. Lewis and Mr. Freeman have returned. They had several matters in dispute which, after a conversation with both, I have made a decision about. Now everything is satisfactory and lovely. I have decided that before I will pay Mr. Freeman for the affidavits, he must make an additional affidavit for nothing. He must make an affidavit connecting the six affidavits from the six parties in Chicago all of which we have. Freeman will do so. I declined to pay him anything for it, on the ground that we could not afford to pay for his testimony but that he must give it to us for nothing, thereby making it more valuable than if we purchased it. I judge that there is nothing whatever left of the Freeman case. I will send you copies of the six affidavits in due time. They are strictly confidential, as we do not wish people to know what we have been about, through fear that before the testimony is taken they may probably tamper with some of our witnesses and otherwise prevent us from getting in legal shape the evidence which we now have in hand. So please consider the matter confidential, that is to say not to be mentioned outside.

S. B. Eaton

December 1st. 1882.

per Mc.G.

Mr. Edison,

Regarding the taking out of foreign patents, I have submitted Mr. Dyer's letters, opinions, &c. given to me, to Mr. Lowrey. In behalf of the Light Company I have asked him for a professional opinion in writing touching ^{this whole} ~~the~~ question of foreign patents, viewed from the stand point of the rights of the Edison Company in the United States. Pending my receiving such an opinion from Mr. Lowrey it seems to me that no further foreign patents should be taken out. Ought the full life of the American patents be shortened by the taking out of any foreign patent before first bringing the matter squarely before the American Company and letting them have their say about it?

I believe Mr. Lowrey has already mentioned this matter to Mr. Dyer. When I get Mr. Lowrey's report I will communicate with you before anything whatever is done. I hope this meets your approval? If not, please let me know.

S. B. Eaton,

December 4th. 1882.

per Mc.G.

Mr. Collins:-

The conference as to what shall be considered a
standard installation, which was to have been continued this,
Tuesday, evening, has been adjourned until Thursday evening,
December 7th. at eight o'clock.

Will you kindly attend at that time?

S. B. Eaton

xxxxx Dec. 5th. 1882.

per Mc.G.

2
16
v
Secretary

Mr. Edison,

Freeman, who went West with Mr. Lewis, has probably consented to make an affidavit. It is an exceedingly long one.

It covers the whole history of the Freeman fraud. If I succeed in getting his signature to it, I will furnish you with a type writer copy.

S. B. Eaton

December 7th. 1882.

per Mc.G.

Rec. 7

Mr. Edison,

Mr. Lowrey and Mr. Dyer called upon me this morning and suggested to me to write Mr. Dyer an official letter authorizing him to take out two English patents, although they might shorten the life of the American patents. I replied that in view of the past, I thought I ought not to take that responsibility. I suggested that I would call a meeting of the Ex. Com., and let the Ex. Com. authorize it. A quorum of the Ex. Com. would consist of Mr. Lowrey, Mr. Fabri and myself. The other two members are Messrs Villard and Adams.

Please do not think I have any desire to obstruct. My only feeling is that I really have no right to undertake to give away a part of a life of a patent without first getting instructions from higher authority. I hope you appreciate my position in this regard, and approve it.

S. R. Eaton

December 27th 1882.

per Mc.G.

Mr. Edison,

I am engaged in writing the next Bulletin. In order to get time to do it I am concealing myself in the evening, also when I can in the day time, for three or four days until it is finished. It will be a good number.

Regarding the first district, I propose to get letters from Clarke, Johnson and Mr. Inspector Osborne. I have written so much about the first district in each number of the Bulletin that I wish to vary the subject a little by introducing the views of other people over their own signatures.

Did you see my letter in the Sun of last Sunday? replying to the letter of the previous Wednesday in the Sun?

S. B. Eaton

December 8th. 1882.

per Mc.G.

THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE

New York, 14th Dec. 1882

Bellevue

Mr. J. A. Edison

Dear Sir -

There will be a meeting
of the Committee on Standards on
Friday Dec. 15th at 2 P.M. at
Bregmann & Co's.

The object of this meeting will
be to decide as far as possible upon
the type of moulding to be used,
sizes and types of cut outs, also
to select subjects for discussion.
at next general meeting of officers.
Will you please attend if possible.

Yours truly

Chas. L. Clarke, Chairman
Com. on Standards

THE EDISON COMPANY
FOR ISOLATED LIGHTING.

Please address reply
to the undersigned.

GENERAL MANAGER'S OFFICE,
65 FIFTH AVENUE.

Meadcroft
New York, December 14th, 1882

Dear Sir:-

You are invited to attend an adjourned
meeting of the Conference on Standard Installations,
to be held at this office on Friday evening, December
16th, 1882, at 7:30 o'clock, P.M.

Yours truly,

W. H. Meadcroft

Secretary of the Committee.

Mr. Edison,

I have written three annual reports lately, might soon
finish Eastern Co. and W. Co. on the whole I think my
W. Co. report is the best. I will send you a copy as soon as
one is made. I shall present the three reports together at length
at the Bulletin.

W. H. Meadcroft

December 15th, 1882

per 1146

Mr. Edison:-

Mr. Howland stopped the Herald plant this morning. Bennett replied to your telegram of yesterday in a cablegram to Mr. Howland instead of sending one to your direct. He telegraphed Mr. Howland he had received your cable but that notwithstanding what you said he wanted the plant stopped at once and the gas lighted and he directed Mr. Howland to tell you that he was writing you. The words of the dispatch to Mr. Howland are "Tell Edison am writing him."

Pursuant to my arrangement with you this afternoon I have just sent the following cablegram to Mr. Bennett in your name.

Bennett.

120 Avenue Champs Elysees.

Paris.

Will connect you with Pearl street station by street mains and furnish light next week if present plant continued to run at our expense meantime. Price of light and terms as to old plant guaranteed to satisfy you. Stopping now serious injury to me.

Edison."

Mr. Howland declines to state why the plant is stopped. He states that he does not know just what Mr. Bennett's reasons are. He says that the men throughout the building are delighted with the light and are kicking against stopping it. He says he regrets to stop it as the light gives entire satisfaction so far as the light is concerned. Possibly we may ascertain from Mr. Howland within a day or two what the reasons are that influenced Mr. Bennett. Possibly we may have to wait until Mr. Bennett's

letter to you arrives. Mr. Howland will be notified immediately of the sending of the above cablegram to Mr. Bennet and will be furnished a copy of it. We will try to induce him to start the plant and run it temporarily pending either his or your getting an answer to the above cablegram. If you get an answer to the above cablegram yourself between now and Tuesday morning, and desire anything done about it, please send word to Mr. Hastings at No. 15 West 50th. street. He has arranged with Mr. Vail to notify him if the plant can be started temporarily either tomorrow or Monday, and Vail will have the engineer and fireman where he can put his hands upon them at any moment.

The whole thing is as much a mystery as it is a surprise. I hope you will be satisfied with the cablegram which I have sent Mr. Bennett and to which I have signed your name, the same as I did to the one of yesterday. Mr. Bennett's action may be explained by his letter to you, but at present it is as arbitrary as it is unexpected. The total cost of the Herald plant is \$22,704. Mr. Bennett has already paid \$15,000 on account. There remains due and unpaid \$7,704.

S. B. Eaton

Dec. 23rd. 1882.

per Mc.G.

A. B. Eaton

Dec 23 - 1882

1st

Can't we keep
light going until
we ~~can~~ make what
changes you require
we are in the dark
as to what you require
2nd

We can light Hines
from our Central
Station same price
as gas making
connection in two
days if you must
have your plant
stopped -

E

[FROM SHERBURNE B. EATON?]

SHALL WE PUBLISH IN SCIENCE. Continuation. Michels talks about Science being distributed abroad. We have been noticed so fully in all foreign papers, especially in scientific papers, that I do not think it worth while to pay the money for that. And as for this country our Bulletins gets into the hands of a good many scientific men. Prof. Barker at my request prepared a list of scientific people and I send Bulletins to them. On the whole I am not in favor of printing the report in Science. Please still give me your views.

[FROM SHERBURNE B. EATON]

11

Mr. Lundy -

Can you send me the
draft of the above paper
by bears?

I will be in to see
you early this evg -

Yours
S. B. Eaton
Thursday -

OVER

1
Have sent my letter with check to Stone
to be copied in my book & determined
to have in Kraft's enclosed for Stone
- let him to have him 15 there can
be made issued to Stone trustee
to sign the letter & send back to
Stone

Your - had

L.

— OFFICE OF —

The Edison Electric Light Company,

65 FIFTH AVENUE,

New York,

188

This Company desires to call attention to the fact that it is the Owner, by proper assignments, of the entire right, title and interest, in and to the following Letters Patent of the United States; and in and to the Inventions set forth and claimed therein.

No.	DATE.	TITLE.
214,636	April 22, 1879	Electric Lights.
214,637	" 22, "	Thermal Regulators for Electric Lights.
218,167	Aug. 5, "	Apparatus for Electric Lights.
218,866	" 26, "	Electric Lighting Apparatus.
219,393	Sep. 9, "	Dynamo-Electric Machines.
219,528	" 16, "	Electric Lights.
222,881	Dec. 23, "	Magneto-Electric Machines.
223,893	Jan. 27, 1880	Electric Lamp.
224,320	Feb. 10, "	Electric Lighting Apparatus.
227,226	May 4, "	Safety-Conductor for Electric Lights.
227,227	" 4, "	Electric Light.
227,228	" 4, "	Electric Light.
227,229	" 4, "	Electric Light.
228,617	June 8, "	Brake for Electro-Magnetic Motors.
230,255	July 20, "	Method of Manufacturing Electric Lamps.
237,733	Feb. 15, 1881	Electric Light.
238,968	Mar. 15, "	Manufacture of Carbons for Incandescent Electric Lamps.
239,147	" 22, "	System of Electric Lighting.
239,148	" 22, "	Treating Carbons for Electric Lamps.
239,149	" 22, "	Incandescent Electric Lamp.
239,150	" 22, "	Electric Lamp.
239,151	" 22, "	Method of forming enlarged ends on Carbon Filaments.
239,152	" 22, "	System of Electric Lighting.
239,163	" 22, "	Electric Lamp.
239,373	" 20, "	Testing Electric Light Carbons.
239,373	" 20, "	Electric Lamp.
239,374	" 20, "	Regulating the Generation of Electric Currents.
239,745	April 5, "	Electric Lamps.
240,078	" 26, "	Webermeter.
242,896	June 14, "	Incandescent Electric Lamp.
242,897	" 14, "	Incandescent Electric Lamp.
242,898	" 14, "	Magneto or Dynamo Electric Machine.
242,899	" 14, "	Electric Lighting.

No.	DATE.	TITLE.
242,900	June 14, 1881	Manufacturing Carbons for Electric Lamps.
242,901	" 14, "	Electric Meter.
248,416	Oct. 18, "	Manufacture of Carbons for Electric Lamps.
248,417	" 18, "	Manufacturing Carbons for Electric Lights.
248,418	" 18, "	Electric Lamp.
248,419	" 18, "	Electric Lamp.
248,420	" 18, "	Fixture and attachment for Electric Lamps.
248,421	" 18, "	Current Regulator for Dynamo Electric Machines.
248,422	" 18, "	System of Electric Lighting.
248,423	" 18, "	Carbonizer.
248,424	" 18, "	Fitting and Fixture for Electric Lamps.
248,425	" 18, "	Apparatus for producing High Vacuums.
248,426	" 18, "	Apparatus for Treating Carbons for Electric Lamps.
248,427	" 18, "	Apparatus for Treating Carbons for Electric Lamps.
248,428	" 18, "	Manufacture of Incandescent Electric Lamps.
248,429	" 18, "	Electric Motor.
248,438	" 18, "	Vacuum Apparatus.
248,434	" 18, "	Governor for Electric Engines.
248,435	" 18, "	Utilising Electricity as a Motive Power.
248,436	" 18, "	Depositing Cell for Plating the Connections of Electric Lamps, &c.
248,437	" 18, "	Apparatus for Treating Carbons for Electric Lamps.
248,455	" 18, "	Webermeter.
251,536	Dec. 27, "	Vacuum Pump.
251,537	" 27, "	Dynamo Electric Machine.
251,538	" 27, "	Electric Light.
251,539	" 27, "	Electric Lamp.
251,540	" 27, "	Carbon for Electric Lamps.
251,541	" 27, "	Electro-Magnetic Motor.
251,542	" 27, "	System of Electric Lighting.
251,543	" 27, "	Electric Lamps.
251,544	" 27, "	Manufacture of Electric Lamps.
251,545	" 27, "	Electric Meter.
251,546	" 27, "	Electric Lamp.
251,547	" 27, "	Electrical Governor.
251,548	" 27, "	Incandescent Electric Lamp.
251,549	" 27, "	Electric Lamp and the Manufacture thereof.
251,550	" 27, "	Magneto or Dynamo Electric Machine.
251,551	" 27, "	System of Electric Lighting.
251,552	" 27, "	Underground Conductor.
251,553	" 27, "	Electric Chandelier.
251,554	" 27, "	Electric Lamp and Socket or Holder.
251,555	" 27, "	Regulator for Dynamo Electric Machines.
251,556	" 27, "	Regulator for Magneto or Dynamo Electric Machines.
251,557	" 27, "	Webermeter.
251,558	" 27, "	Webermeter.
251,559	" 27, "	Electrical Drop-Light.
Design No. 12,631	" 27, "	Electric Lamps.

The inventions therein claimed pertain to the Generation, Regulation, Distribution, Measurement and Utilization of Electric Currents for Light and Motive Power purposes.

They embrace improvements in Generators, in their arrangement and in means and methods for Regulating or Controlling their generative capacity; in Conductors for distributing the current; in "Safety Catches;" in Junction Boxes; in Meters; in Motors; in Incandescent Lamps and in Sockets, Brackets, Chandeliers, Shades and other fittings or fixtures therefor; in arrangements of Conductors into Systems; in Systems of Lighting and in other matters for a full knowledge of which reference may be had to the patents themselves.

The improvements in Lamps relate to Materials used therefor, to characteristics of the Incandescing Conductor, to the methods of treatment of the Materials, to means for such treatment, to methods of manufacture, to a complete lamp and to individual parts thereof, all as fully set forth in the patents relating thereto in the list above given.

This Company has been led to understand that other parties are now proposing to engage in the business of Incandescent Electric Lighting, to manufacture and put upon the market Incandescent Electric Lamps which in themselves, or in their manufacture, or in the arrangements for Generation, Regulation, Distribution, Measurement and Utilization (either or all) connected therewith, will infringe certain features covered by patents noted in the list herewith given.

Now therefore, this Company gives notice to any and all such parties, and to any and all parties who may hereafter propose to enter upon the business of electric lighting by means of incandescent lamps, or of furnishing electric power or lights; that if, in so doing, they infringe in any particular whatever, any of the patents hereinbefore noted, or any patent that may be hereafter owned by this Company, this Company will proceed against every such party for the full legal enforcement of each and every patent infringed.

**1882. Electric Light - Edison Electric Light Company -
Accounts (D-82-025) [not filmed]**

**This folder contains payroll accounts, bills, and receipts relating to the
business of the Edison Electric Light Company.**

**1882. Electric Light - Edison Electric Light Company -
Eaton, S. B. - Reports (D-82-026)**

This folder contains correspondence from Sherburne B. Eaton to Edison pertaining to the business of the Edison Electric Light Company and related companies.

All the documents have been filmed.

Mr Edison,

I am told that the Light Company stock yesterday was up to \$900.

The Directors of the Isolated Company were changed last Saturday, so as to get men who are not directors in the Light Company, to vote on pending matters between the Light Company and the Isolated Company. That is to avoid the legal objection of everybody being on both sides of the fence. In place of Fabbri has brother was put in. Lowrey put Goddard in his place. Moore was put in place of Banker.

The Isolated Company has this morning \$544, 48 in bank. I asked for another call to be made last Saturday. Thus far 50 cents have been called in. The Board took strong ground against our present policy of selling plants on approbation. They thought we had better not accept any more orders on approbation or guarantee at least until all outstanding accounts were collected. I showed the absurdity of that position and told them we should get no orders and might as well not spend any money in trying to get them. I shall call another meeting in a few days and with the new Board of Directors shall hope to change the tone of the last meeting.

This morning the Illuminating Company has in bank \$12, 725. The Light Company has \$11,189.

I must apologise for giving you all these ~~xxxxxx~~ details. The fact is I miss your morning call, and not having you here to talk to I have to talk to the Stenographer. By and by I shall get used to it and will not then trouble you with such a lot of little things.

S. E. Eaton

May 9th. 1892.

pr Mc. G.

(May 10/82)

Mr Edison. WEDNESDAY MORNING.

In your interview published in the St. Louis paper you said "gas gives ninety eight and one half per cent more heat than light". Do you mean that or do you mean that it gives ninety eight and a half per cent as much heat as light? I want to use this and should therefore like to be accurate about it. You also state that the electric light gives "about six and one half per cent of heat as compared with the amount of light."

Moore has returned from Washington where he left Mr Bennett's yacht. He was on board three nights. The yacht disappoints Bennett as regards speed. They cannot get over twelve and a half miles an hour. It is the fault of the engine and boiler. The engine and boiler business is not far enough advanced yet to furnish with certainty what a man wants even when he gives an order regardless of cost. This bears out your views about engines and boilers. But the electric light works splendidly. One night they had fearful weather all night. The dynamo was run until four o'clock in the morning. Much of the time the magnets were describing an arc first at right angles on one side and then at right angles on the other. But they worked first rate. The only trouble was heated bearings. They kept ice on usually in the night. Bennet said that the electric light was the only perfect thing about the yacht.

Moore saw the Smithsonian people in Washington. They will probably give us an order and pay for it to light up their lecture room with 36 A lamps.

Moore called at the Government printing office. Our

light gives perfect satisfaction. Moore says that the German Engineer who wrote the letter that so enraged Dean is a friend of our light and a good friend. He is going to recommend a central station plant to light up the entire building with 1600 lamps. It seems they clean the boilers out about midnight which takes about two hours and during that time they burn gas. That disgusts the printers who swear they will not work by anything but the electric light.

Hazard, President of the Gramme Company, says the Swan Company will light up the Madison Square Theatre or some other conspicuous building right away. He wants to know if we will unite with the United States Company without prejudice to our controversy with them, to crush out the Swan Company. What do you say. Hazard has notified Mr Mallory of the Madison Square Theatre that the Gramme Company will go for the Swan light if they introduce it and go for Mallory too.

Insull will tell you the arrangements about the rooms up stairs. He and I think that you should have a room up there to be always kept for your use. I hope you will fit it up with some little conveniences and comforts and thus be induced to stay with us longer when you are in town than you otherwise might.

A man has called with an invention for an engine connection so as to give by direct attachment and without belting a maximum of 1200 revolutions a minute with slow speed engines. I have turned him over to Clarke. He says he is just getting a patent for it.

Howell came on from Washington with Moore and is now on the Queen of the Pacific at Phila. Moore goes over tomorrow night and also to start the light in the Ledger Building.

Oglesby is left in Charge of the plant on Bennett's yacht.

Borden telegraphs that the Directors of the King Philip mill voted last night to accept our proposition to light their mill.

Adams has just returned from Mexico. He says we ought to have a plant burning down there right away. He is much improved in Health and appearance.

Hoskin writes from Phila. that he was misinformed about the Baldwin plant. They are not running ^{7:15} because they stop work before dark. He says that the plant gives entire satisfaction and that Mr Converse tells him they would now endorse every word of their letter of recommendation and would ~~even~~ say more.

I have received a copy of the report made by the Rhode Island Legislature on under ground conductors to the Legislature. It is long. I will read it over and possibly I may put it in the Bulletin. Do you think I give too much space in the Bulletin touching the question of underground conductors? I assume that we want to make a special point of that and to educate the public up to the necessity of underground conductors. Am I write. Here is an extract from the Boston Traveller of yesterday showing that Munroe has already printed the Clarke letter. I notice in the same number of the Traveller an advertisement from the Hotel

Everett. Here it is. You see they speak of our light

Borden has sent me a letter from Prof. Cross. Cross says a friend of his visited the South Boston Sugar Refinery and that our lamps are running splendidly there. Borden was not certain whether the criticism of Mr Monk was touching the Pemberton Mills of the Sugar Refinery. Munroe seems to assume that it was the Pemberton Mills but which ever it was Mr Monk prevaricated.

Borden's Fall River Company for central station lighting is not arranged yet. He is waiting for Mr Theodore Dean to decide this week whether or not he will take a big interest in it.

S. B. Eaton

May 10th. 1882.

per Mc. G.

Mr Edison,

Saturday Afternoon, 2-30, May 13th. 1882! The news-papers are full of the Faure battery. I send you herewith a letter from Hazard to our Company received this morning asking if he shall call a special meeting of the Gramme Company to fulminate against Faure. Hazard says Brush will beat Faure on his patents in this country. If the Gramme Company strikes at Faure I shall insist upon their striking at Swan. If the Brush people wish the Gramme Company to destroy Faure, we will consent if Brush will let us use the Gramme patent, together with all of the patents of each member of the Gramme organization, to destroy Swan provided we wish to do so. Please send me back Hazard's letter.

My next Bulletin will be out about Tuesday. In the Bulletin succeeding that I should like to say something about storage batteries, in order to post our stockholders and prevent their being alarmed. I believe Johnson has written you a good deal about the Faure battery and of course you know all about it yourself. Will you, therefore, dictate something for me to make an item out of for the Tenth Bulletin? The sooner I get it from you the better for my convenience.

I have made the change in the Edison Light Pamphlet of the Isolated Company agreeable to the suggestion of Hoskins and Borden and pursuant to my talk with you. It makes the cost per hour of our lamp about 19 cents as against $84\frac{1}{2}$ cents for gas.

Your memo. on the letter from Clarke of the Pemberton Mills about arc lights is so good that I have made a copy of the entire memo. and have sent it to him in connection with my reply.

The engine for the Sixth Ave. store, Isolated Co. has

not yet come and we do not know when they shall get it.

The valve for Jaffray's broken engine will not be here until Tuesday morning and he cannot start until Tuesday afternoon. Vail says that the trouble at Jaffray's engine is partly Jaffray's fault, namely, water in the exhaust pipe. Vail also says that the pin that holds the piston in the cross head is not strong enough. You remember it bent in Jaffray's some time ago and the same pin has now bent in Thurber's. But we did not have to stop Thurber's ~~xxxxxx~~ plant. We run it until the evening day before yesterday and then put in a new pin in the evening.

We pay Andrews at Goerek St. twenty one dollars per week.

Bliss writes from Chicago that Stager is still away on another fishing excursion. Bliss says the Post Office Commission has decided to light the halls and entrances with the arc lights and to limit the incandescant lights to the basement and first floor. That is what Bliss thought they ought to do. They will now advertise for fresh proposals for incandescant lamps. The proposals must be handed in within two weeks. Bliss hopes to secure an order for 600 Edison lamps, although possibly the Maxim people may outbid him.

Our plant in the Phila. Ledger building will not start until Tuesday. It seems the insurance people had inspected the wiring and had approved it but had not issued a formal certificate of approval and will not do so until to day or Monday. Moore will go to Phila. again on Tuesday to start it Tuesday night.

The Mc. Keesport plant is running all right now, al-

Though Schroeder is still there.

On Thursday you asked me to say to Mr Andrews that he did not inspect the machines closely enough. Clarke thinks we ought to specify just what any oversight is. I told Clarke that you had some work at Menlo Park which had passed Mr Andrews' inspection and that you thought it had not been well inspected. Clarke said in reply that he thought it was but just to Mr Andrews that the exact oversight should be stated, general censure of a sweeping nature being one thing and specific matters being quite another thing. In other words, if Mr Andrews knew just where you consider good work to end and bad work to begin generally or with reference to a specific item he could take a firmer stand than he dares to take now. As I understand it, neither Mr Andrews nor Mr Moore, nor Mr Clarke consider the dynamos as being as perfectly made as they should be built, and if Mr Andrews made his inspection as thoroughly as everybody connected with the engineering departments of our various companies wished, possibly no dynamo would be passed. But I am not an engineer myself and I merely mention this as an echo of what I hear. After all the real point now is this --- instead of censuring Mr Andrews in a general manner, is it not due to him to point out just what defect he has overlooked in passing a machine? If this suggestion meets your approbation will you kindly communicate what your specific criticism is and then in addition to calling his attention to that I will also make a more sweeping censure.

David writes from Columbus tendering his resignation again. He says he is unable to get any orders and he does not

like a heavy bill of his expenses each month besides his own salary when he is not selling any goods. He says too that he can make an advantageous arrangement at Pittsburgh, I suppose in some other business. We have him all tied up in writing so that he cannot go into any other light company. Moore and I think we had better let David go as he is always discontented.

Hoskin is over to day from Phila. He brings copies of the Phila. papers about the progress being made there by the Brush Company and the Maxim. The Maxim people have obtained authority from the city to run underground conductors from their station on Arch St. to 10th. St. down 10 to Market then to 9th. down to 8th. and Chestnut and also along 8th. St. to Vine St. Mr Maloney, their General Manager, says he has made contracts with nearly all the storekeepers on the route to furnish them with the Maxim light. They propose to lay a two inch iron pipe two feet below the street, the pipe to contain eight No. 4 copper wires insulated with cotton wrapping saturated with paraffine. The space around the wires they fill with oil treated by a patented process. They will secure the pipes together by sleeve couplings and will use T connections. They will furnish both arc light and incandescent lights from these mains. All of ^{this} ~~these~~ is set forth in the current Phila. Papers which Hoskin brings over. The Brush Co. and the Maxim Co. are also making a big deal to get in other capitalists to buy out the Phila. gas works. Barker says our Company has nothing to fear at present except a fair trial of these other systems of electric lighting and that if by and by



we put in a station we will then all stand an equal chance of getting a permit for the whole city. Thus far the Brush and the Maxim companies have got permits for only limited areas.

Barker tells me to day that Draper told him last night that Weston has just made a 2500 ohm Weston incandescent lamp.

Clarke has figured out the cost of running our plant at 65 Fifth Ave. first from March 8 to April 8th. and next from April 8th. to May 8th. It includes everything, coal, engineer's wages, lamps &c. The average number of lamps burned each night was 52. The average number of hours a little over four hours. The average cost per hour was about \$1. 20. The average cost of each lamp per hour was about $2\frac{1}{4}$ cents.

Regarding the Sheridan patents I send you again Hazard's letter of May 10th. together with Wilber's report dated May 13th. Will you please return same to me without delay with such comments as you choose to make.

Mr Hoffman and Mr Einstein, two of Spencer Borden's friends, spent last evening with me and stayed until after ten. He explained our system to them during a two hours steady talk. Borden wished me to capture Hoffman so that he would put some money in Borden's local company in Fall River. Both Hoffman and Einstein are interested in the Sawn light in New York. When Hoffman went away he told me he was so much impressed with what he had learned that he should certainly take a good slice of stock in Borden's illuminating Company in Fall River.

There will be a meeting of the Directors of the Light

company on Tuesday at one o'clock at Drexel's. I must make a report on the Goebel patents and I should like a note from you to present as to whether we had better undertake to buy them. The Board will of course naturally wish your views in the matter.

I wish also you would send me a note as to whether the Company had better take any action about buying an interest in the Faure batteries. I wish to put the matter on record as having had the attention of my office and I wish to say that the decision reached was with your authority. Now, if you would write a letter for me to present to the meeting it would get the matter in most excellent shape and relieve me from being an apparent arbitrator in such purely electrical matters, in which I really do not arbitrate anything but in fact simply execute your views.

Yesterday the Light Company had \$ 10,400 in bank ---
the Isolated Company \$2,000 --- the Illuminating Company \$8,000.

S. B. Eaton

per No. 6.

May 15
Mr. Edison,

Monday, May 15th. 1882. 2-30. Mr Paine has been working on the Worombo people. You know they gave an order to Maxim. He says he has sickened them with the Maxim lamp, but they had signed the paper so they could not back out. He says the Maxim Co has guaranteed for seven and one half lamps per horse power and the Worombo ^{people} say that if that guarantee is not made good the lamps must come out and ours go in. The agent of the Worombo Company says that "they came to his mills without plans, have hung wires at random, not put in a safety catch on the premises and do not know their business." Borden's brother is now at work among the shoe factories at Brockton. Mr Kilbourn, of the Wam-sutta Mills, tells everybody that the Edison system is cheaper than gas purchased at \$1.50 a thousand. Borden needs the 250 light and 500 light machines very badly. With them he says he can do an enormous business at isolated lighting.

The contract for the King Phillip Mill is for 705 lamps. We furnish everything and charge \$12,000 for it. But the mill people give us two carpenters for at least five weeks to assist in wiring and they furnish foundations, counter-shafting and belt connections and pay freights and cartage. The Edison Company guarantees the average life to be 600 hours if not driven beyond 16 candles and they guarantee 6 lamps of 16 candle power per indicated horse power. We also guarantee a steady and constant light without flickering provided the speed is steady. We also agree to furnish a man at our expense for three months to supervise the running of the plant. The price also includes a 6 x 8 Lawrence engine to run some independent mains. The plant is to be installed by the 15 of September and payment is to be made within 90 days from starting.

I have a letter from Rio from Mr. Carty explaining the

letter troubles he has had. I will send you the same in my next memo.

Hutchison and Hand are at work on the statement of the financial standing of the Isolated Company to be presented at the Director's meeting this afternoon. I have prepared a rough statement heretofore which I have shown you. I trust this new statement which is prepared with the utmost care will agree with my previous figures. If so the Isolated Company is in good shape everything considered, although collections are rather slow.

We began work on Prof. Draper's house last Tuesday morning and Saturday night we had it lighted up in fine style. They tell me Draper is well satisfied.

Col. Dyer writes from Washington that the hearing on the Sawyer affidavits wherein we deny his allegations is set down for tomorrow but that the Sawyer people will probably ask for delay. Dyer wishes Lowrey and me to be present when the hearing takes place.

Borden writes a nice letter about his experiments in storage batteries and about the applications for patents which he now has on file for storage batteries. I send you his letter herewith. I should like to write Borden a nice answer in reply and will thank you to return his letter to me with such comments as you think proper.

One piece of good news is that the Insurance people have approved the Mills Building and have granted a permit. Now we can ask Mills for a payment of say \$8,000 on account of his wiring which is not yet completed.

We have received a long letter from John A. Place of Albany, who has charge of deciding what electric light shall go into the new capitol at Albany. It is an important matter.

I am afraid they will want to run some arc lights. However, that will not prevent us from trying to capture the incandescent light business. I have asked Moore to get up statements of detail in answer to Place's letter and I will overlook Moore's work before it is mailed to Place.

I hear the Faure people are going to make an exhibition to day on the steamer for the benefit of intending investors. I am told that for every twenty shares of stock to be issued by the promoters there are already 300 applicants. I had a talk with Barker about the Faure battery. He says that the Plant battery probably vitiates the Faure patents. He says it is analogous to Paccinoti and Gramme in that respect.

Last Saturday the Light Co. had in bank \$6300. The Isolated Co. \$840. The Illuminating Co. \$5800.

Wilber has shown me your letter to him dated May 13th. about your not being able to testify in the discoloration suit on the 18th. I entirely agree with you that your time will be so much occupied for the next two or three months that the matter had better go over to Autumn even though it carries over with it the Freeman case. The same attorneys being employed in both cases and they wishing an extension in the Freeman case they will probably trade one delay off against the other.

Last week 24 days were devoted to Cornelius Vanderbilts house on wifing. Seven days on Hutchinsons house just now about completed. Thirteen and a half days on John Sloane's house which is now finished.

I have received a lithograph of the new Casino at 39th St. and Broadway. The lithograph presents a most beautiful building. We can light it if we wish to do so at our own invest-

ment and the matter will come up before our Isolated Company this afternoon.

Barker wants some lamps sent to Prof. Hagenback, of Switzerland. That does not belong to the European Company. Who do you think ought to pay for the lamps and for the expressage. They have not been sent yet.

Greenfield's pay roll last week amounted to \$180.30. Here is copy of veto by Mayor Harrison of the Brush electric light ordinance in Chicago. Please return it to me as I wish to show it to Mr Lowrey. Harrison is a Yale College man and many years ago I knew him quite well.

A recent letter from Mr W. T. Armstrong, of Denver, Col., and old telegraph man, contains the following paragraph about the partial failure of the Brush light in Denver. "The Brush system which has been introduced here is not the success which its promoters promised but they are ^{probably} ~~probably~~ as much at fault as the Brush system. They squandered how much money I do not know in constructing expensive circuits which lacked insulation and were full of outrageous joints and loops."

S. B. Eaton

per No. G.

P. S. Last week the Light Company paid the Machine Works on account of E. Dynamos \$2470. The Isolated Company paid Bergmann & Co. \$1801. The Illuminating Co. paid the Machine Works

\$1493.

May 16 - 1882
Edison to Edison

Tuesday, 2 P.M. May 16th. 1882. Mr Shaw will visit you tomorrow with some officials from Penn. to see about the electric Railroad in Fairmount Park, Phila. Mr. Laughlin also seems to be impatient to have the road out to California. But he has talked with you much more about it than he has with me, so this is no news to you.

Banker was here yesterday afternoon a long time. He feels very much dejected about Ore killing. He says people who bought stock at high figures are grumbling. Mr. Laughlin was present during that part of Mr Banker's talk.

Navarro received the following cable from Havana yesterday "Louvre (restaurant) illuminated last night - Complete success - general enthusiasm." He spent the evening with me last night. I showed him how I have my office systematized and he expressed so much surprise that I guess he must have thought the office had no system whatever. He was especially struck with my weekly report from the Hefect Book. I took occasion to impress upon him the fact that he might have some little defects in Havana and that he must not be alarmed if he did. Thus I have prepared him for anything that may occur. He had the intelligence to see that defects do not amount to much if we handle them intelligently and have a system of weeding them out.

Navarro wants me to send a copy of the Hefect report each week to Havana. He says that even if no explanations are sent with the report it will teach them that accidents may possibly happen and make them a little more cool in case of accident. What do you think of this, and what do you think of my sending a copy round to most of our leading agents?

Bliss sends an order for a 20 light dynamo to light up

20.

a ~~sakine~~ saloon in Milwaukee. He is also going to wire the house of Judge Thomas Dent which makes the fifth first class dwelling wired in Chicago.

Winslow, Lanier & Co want to be the first people lighted up in the down town district. I sent Greenfield to see about their fixtures and wiring. He reports that the old paraffine wire was used and that the insurance people will not pass it. It would be a pretty serious matter if we had to change all that wire in that district.

The two Dickersons have been in this morning to talk about Goebel. They brought with them their go-between. Your letter of yesterday on the subject is received. They admit that the only use in buying up Goebel is to prevent his being a witness against us. They say that on the witness stand he could treat his experiments as abandoned or not as he might think best and that that is about all we could buy in paying him money except his patent on the mercury pump which is not of much value, also his two patents recently allowed one on a twisted spiral to hold a carbon which can be moved up and down so as to be regulated and another patent on the paste to hold the carbon to this twisted spiral.

Fabbri & Chauncey have received from Stewart word that the capital stock of their local company has been increased to fifty thousand and they this day send us an order for the plant which Stewart selected. It consists of five dynamos for 250 A Lights each, also two Lawrence engines of 90 H. P. each. Also three boilers, also 200 meters, also 500 feet of copper conductors, also 3300 lamps and a vast amount of stuff from Bergmann & Co. The 500 feet of streetmains will require special attention in view of the melting of the insulation in the heat.

The matter will be put in Clarke's hands at once.

The Directors of the Isolated Company met yesterday. We decided to call in 10 cents more. The detailed statement of the financial condition of the Company was submitted and I will have a copy sent to you.

Munroe wants us to light the Equitable Life Ins. building in Boston as an advertisement. The Isolated Company decided yesterday not to do so. We also decided not to light the Casino at 39th. St. & Broadway at our own investment. We will gladly sell them a plant out and out if they will buy it.

I expect to have furnished me tomorrow morning some of Mr Goebel's paste. Also one of his lamps. Also possibly some of his carbons.

Some Wall St. men propose to offer Goebel a salary of \$150 a week, also \$100,000 in stock in the company of some large figure in the way of capital, also hereafter \$10,000 in cash. Thus it would be a pretty expensive matter to buy him up simply to take our chances on what kind of a witness he would make on the witness stand in some future interference case between us and the Maxim or Swan light on the lamp.

Here is a definition of the safety-catch and plug, cut out and switch which Clarke has prepared. I shall print it in the Bulletin as instructions to our agents so as to insure uniformity of nomenclature provided you say it is all right. Please return it at once with your instructions.

Bliss writes from Chicago that Stager has got all his signatures except two and they are pledged. That he expects to have everything in shape by the 23rd.

A reporter from Harper's weekly has been in. They

They are thinking about illustrating our down town district. I think it would be a good think and I of course laid myself out on the reporter but with what success I do not know.

Ladd telegraphs this morning from San Francisco in reply to a telegraph which I had Mc. Loughlin send him yesterday saying that he will carry out his contract if we will give him 30 days extension. He and Logand and Mc. Laughlin have made new terms. Mc. Laughlin behaved very handsomely about his conflict with Ladd in a conversation with me yesterday. I was much pleased with his bearing in the matter. Under Ladd's contract he was to pay us \$10,000 the first of June and we were to get \$15,000 more from the company on the first of July. He wants an extension of 30 days with both of these payments and he thinks he can then handle the matter out there

I have another letter from the Lawrence people. First Mr Battles wrote me and I answered him. Then he turned my answer over to Mr Clarke who wrote me and I answered him and enclosed in my letter your letter to me on his letter. Now he truns the matter over to Mr Whitney, of Lawrence and he writes. He wants to know if we will give them a license immediately to organize a company in Lawrence so as to keep the other lights out and prevent other companies being organized. That is the first time they have struck the real point, and there is now something in the correspondence which will enable us to make headway.

I enclose statement from Dodge about feeders in the down town district. It shows how much increased length of feeders is necessitated because the Pearl St. station is not in the electrical centre of the district. Will you kindly return this without fail? It is marked 16 A. B.

My daily reports from Grower show that they are working on the Indicator and on Solutions of Zinc and on testing Meters.

I cannot send you the itemized statement of the accounts of the Isolated Company after all. The book-keeping dept. made some small errors and I want to get the thing exactly right before sending a copy of it.

Regarding the names of new dynamos I send a memo. from Mr Clarke which please return to me with your comments. It is marked 16, B. C.

Regarding the Sheridan patents, Wilber has looked them up and made me a report to the effect that there is nothing in them that we care for.

I have received a copy of a Brazilian paper dated April 15th. containing a account of the lighting up of the railway station at ~~xxxx~~ Rio. It praises the light but says "the lamps occasionally fail to act without evident cause."

I send you a seven page letter from Mr Betts in reply to my note written after my talk with you about Betts having sent some one else to take testimony at Newark. My letter was not at all severe but Betts seems to have taken it to heart. However it will not hurt him to know that we watch him closely and want his best work. This matter turns out just as a great many other matters have turned out which at first seemed bad. There is something in the atmosphere surrounding this business which makes everybody carry tales to you and to me. These tales are usually adverse to somebody in our employ. I investigate every one of them but they generally turn out just as Japan Moore's tales did and as this little wrong impression of Mr Betts turns out. I should be very sorry not to have complaints made. That is the

only way we can get at the truth but speaking for myself I feel that I must exercise the greatest caution not to form opinions upon stories which come to me meant to injure other people in our employ, until I have first given them a thorough investigation.

Please return this letter from Mr Betts to me. It is marked 16, C. D.

16
C
D

RECEIVED

APR 23 1882

ANSWERED

22nd May 1882

RECEIVED
APR 23 1882
ANSWERED
22nd May 1882
FURN. No. 11-30 A. M. Here is a

letter from Dickerson & Dickerson giving their views about our notifying infringers. Please return it. It is marked 20, A.

Do you know C. E. Jones & Bro., Electrical Apparatus Manufacturers, Cincinnati? David recommends them. They want to represent our Isolated Company in Cincinnati. Do you happen to know them?

Here is also a letter from Mr Betts on the same subject as Dickerson's letter. I wrote both of these law firms on Thursday before I went away to Washington asking their opinions and told them what our Board of Directors had instructed me to do. Please return Mr Betts' letter. It is marked 20, C.

I left here Thursday night at midnight and got to Washington at 8-30 yesterday morning. The hearing before the Commissioner took place and was finished a little after twelve and I immediately left on the one o'clock train and got back here last evening. It took me but a few minutes after I reached the Commissioner's office to see that the most effective way to handle the case was for me to take a hand in the matter. I accordingly read all the affidavits myself, and made a few running comments as I went along so as to fix the matter in the Commissioner's mind. I am satisfied the case is overwhelmingly in our favor in the Commissioner's mind as regards the charge of bribery, and I think our great success there will tend to help us on the main motion. Broadnax interrupted me several times in the early part of my reading, but I soon choked him off and when I had finished he felt more ashamed of himself than any man I ever seen in court. He told the Commissioner that Sawyer was a drunkard, that the Company could do nothing with him, and

that he himself had not drawn the affidavits, and generally speaking he backed down entirely. He admitted that Sawyer wrote the Herald letters and told the Commissioner so.

I am sorry that Johnson ever selected Mr Knight to take charge of wiring. Now that he has left us and that we are getting at the facts his work seems to have been wretchedly done. I am afraid Mr Wright's house at Fort Washington will have to be wired all over again before the insurance people will pass it. Knight seems to have made a miserable job of it. I am sorry that Johnson ever selected him. He was a little better than Chau but not much better. In selecting both of these men Johnson made two very bad mistakes.

Here is a letter from Hazard in which he says that Houston, representing the ~~Swan~~ American Co., which is a member of the Gramme combination, is ready to sue Faure in behalf of the Gramme Company if they desire. What do you say? My own idea is to not consent to suing anybody until the Swan matter is determined provided we can keep the matter in such a shape as to consistently take that position. Please return this letter marked 20,D.

I have a letter from Ladd from San Francisco dated May 11th. in which he states that the American Co. have arrived there and have already fascinated one of Ladd's friends to such an extent that Ladd fears he cannot keep him out of the concern.

Our pamphlet "The Edison Light" is nearly exhausted and I propose to issue another edition. Navarro has made a translation of it in Spanish and has added a good deal from Barker's pamphlet and also from the Bulletin. Possibly I may adopt in the new edition some of his matters put into his Spanish pamph-

let. But I am not sure that I shall make any except regarding the figures. Navarro has been in again and wants me in the next edition to omit the comparison with gas on page 15. He says it simply makes the gas people mad unnecessarily. By the way, he sated that the present profits of the gas companies in this city were enormous. He says they are now making in New York City alone a profit of \$6,000,000 a year and that besides paying big dividends they are laying aside a large surplus to fight the electric light.

I send you marked No. 20 E. an article contributed to the Providence Journal, May 18th. by Gov. Howard. The subject is yourself. You will see he pays his respect to Insull and also to myself in the last paragraph. Please return this to me without fail.

Did you see my interview published in the Post of last evening? The interview really took place several days ago. It is reported tolerably accurately although there are some mistakes.

Here is a letter from London about selling a copper mine to us. Sometime hereafter we may have to buy a copper mine but I suppose we have too much on hand to do it just yet. Please return it to me. It is marked 20, F.

Kruesi states that he wants to go ahead at once and get up drawings to reconstruct our boxes and joints. It is a question of changing the size and shape. I suppose you do not care to be troubled about this as Kruesi is competent to handle it, but if you have any suggestions I should be glad to get them.

although I will not delay to hear from you.

David sends us a first rate application for a local company in Cincinnati. The names seem to be first rate men. Mr Fabbri says that his friends in Cincinnati will not take up our enterprise. I am disposed to take matters up in Cincinnati at once.

Here is a proposition from Dr. Moses for him to go into the arc light business. The details of his proposition are objectionable. But on the general subject as to whether we want to do any work on the arc light ourselves or want somebody else to do it in our behalf is a question which might be considered quite apart from the details. Will you kindly give me your views and return this letter marked 20, G.

Mr Dryer representing Goebel called this morning and brought me a Goebel lamp. It is shaped like a wax candle and has more than four inches of platinum. I am going to keep it for you.

Have you decided yet what to do with Mr James A. Russell?

RECEIVED

MAY 23 1882

ANSWERED

Monday, May 22nd 1882, 3-30 P. M. I shall be out to see you tomorrow so I will make my memo. a short one to day.

FILE No.

Here is a statement from S. D. Mott of all of his alleged inventions and patents. He wants to sell them to us and make some arrangement about them. I have had him submit this list in writing in order to get it in intelligible shape. I will talk it over with you tomorrow. I have arranged a long sitting with Clarke for this evening to talk over the question of how meters should be manufactured, also the question of taking men for central station lighting. Also safety catches, also the trouble anticipated with insurance people about our wiring in the first district, also coal supply and storage for coal. We are going to give these matters prompt attention.

My Report of May 16th. states that up to that date there had been laid during the month of May 15 safety catch boxes, also that the feeders had all been brought across Fulton St. I was down there Saturday and they were to have been carried into the Pearl St. station from the East on yesterday. I have not yet learned whether or not it was done.

Here is a copy of my report on the Defect Book. I send out the usual copies to the various parties engaged in manufacturing.

On page 293 of the current volume of the Scientific American you will see that an Englishman in Newcastle in connection with a patent on manufacturing incandescent lamps has obtained a patent for a method of attaching the carbon to the wire which appears to be very much like that used by our friend Goebel.

The South Carolina people who are here are inclined to adopt the arc light because it is cheap and can be readily introduced. They also say that the Brush people and the United States people both claim to have an incandescent light superior to ours which they will introduce in due time.

Regarding Cincinnati I guess I will have to jump on the cars and run out there and see how matters stand in that city and find out just what we had better do with reference to the application for a company for that city which has been sent on by Mr David and which seems to be signed by a number of apparently first class men.

RECEIVED
MAY 25 1882
ANSWERED

25 May 1882

FILE NO.....

Wednesday, May 24th, 1882, 3 P. M. I asked the Gramme

Company last week to look up the Electro Dynamic Co. of Phila. and make a report upon it. Here with please find their report marked 24 A. Please return it. I note that they had some small sewing machine motors made at \$1,90 a piece.

Borden spent the whole forenoon with me. It turns out as I expected he is having some trouble about his illuminating company in Fall River. It seems that Edmunds and Montgomery have been at work in Fall River and New Bedford talking up the Swan lamp and engaging for the formation of companies to run it in connection with the Brush lamps. I have already given you the information I have showing that the Brush people are really in point of fact taking the Swan light under their protection. It seems that capitalists in Fall River who were going to put their money into Borden's local company, are at least for the present disaffected by the big promises made by the Swan people. They therefore are disposed to wait and not to back Borden up for the present. Even Gov. Howard who was very enthusiastic and promised to take a large block of stock, now expresses himself to Borden as not very desirous to do so and even he prefers to wait. By the way, this verifies my diagnosis of Howard the last time he was here. I was right all the time. Howard was ready to get up a company for us, and his letter and telegram to me meant that and nothing else. But between that time and a subsequent time (a few days later) when he came here in person either Edmunds or Montgomery or both had cooled off all his ardor. His visit here when he saw you was in point of fact to explain away and to some extent get out of his possible hasty and certainly bold attitude taken to me touching his at once forming a company. He devoted

a good deal of time to you and to Mr Lowrey in talking about general matters, but avoided me almost altogether, and thereby avoided a square discussion of the business aspect of the case. I suspected then what was the matter. Things show I was right. Borden says that Howard has remarked to him that he thought Swan bore about the same relation to Edison that Bell did in telephone matters, and that sooner or later there would be a consolidation of Swan and Edison just as there has been of Bell and Edison in telephones. Howard wishes accordingly ~~himself~~ to go into the company that he can enter the cheapest. Howard's friendliness as shown by the article in the newspaper &c. means that he wishes to keep on good terms with us, but his change of front about forming a company in Providence, and his change of attitude about investing his money in Borden's local company, both show that he is uncertain which way he had better commit himself. But I digress too much in thus speaking about Howard. Some of these capitalists who have been to Boston to talk with the Brush and the Swan people, are Theodore Dean who was to put \$25,000 in with Borden and whose son-in-law, Stickney, was to be the treasurer of Borden's company; also one of Borden's Directors in his Bleachery; also a cousin of Borden's. From these people he has learned confidentially, first, that the New England Brush company are to execute a contract to day with the Swan people for the use of the Swan light in connection with the Brush lamps in New England; second, that the New England Brush Company are now manufacturing in Boston Swan lamps; and, third, that the New England Brush Company will at once encourage the formation in New England of local Brush Companies to use the

Brush and Swan lights jointly. Borden also says that the Swan people will make an exhibition of their lamp in New York city in two weeks, to which capitalists from Fall River and New Bedford will be invited. These facts taken in connection with facts which I have already explained to you, satisfy me that the Brush people have substantially taken the Swan lamp under their wing. I have accordingly sent for Col. Hazard to call upon me this afternoon. I propose to request him as president of the Gramme Co. to issue in the name of the Gramme Co. a manifesto against the Swan Co., calling it by name, and I propose to ask him to request from all the members of the Gramme Company, including the Brush Company, the use of their name for that purpose. Thus I propose to feel Brush and ascertain his attitude. I do not wish to write directly to Brush or to have another interview with them. In view of my last interview with Stockley I feel that the dignity of my position is too great to have me approach the Brush company a second time in such a way. Meantime I will see that no actual suits are commenced against Swan. I told you what Johnson had just written me from London, and I wish to defer beginning any suits until the matter which he spoke of is decided. Should Swan recognize Edison in London and taken a license from him that would help us immensely in any suit here. But should we begin any suit here before that is accomplished in London, it might prevent the carrying out of that plan in London. Meantime I shall send Wilber down to Betts and have them get up a notice to serve on Swan and Maxim, pursuant to Betts' letter and Dickerson's letter. I send to Betts instead of to Dickerson, because Betts' letter shows the most intelligent apprecia

tion of our wants in the matter.

Borden says he has told no one at Fall River the real reason of his delay in starting his illuminating company. But he tells me that the real fact is that the Montgomery and Edmunds crowd, using the Brush name, have at least temporarily paralysed his efforts.

Regarding Dr. Moses and his taking up the arc light, I have had a conference with him to day and have made an appointment for a lengthy one tomorrow when I may fix the details. Do you think we want to give Moses over one fourth or one third of the profits accruing from the sale of arc lights and the sale of carbons? He wants one half. If he does all the work and is successful he will be entitled to one half. But possibly you may have to do the most valuable work yourself, in the way of valuable suggestions, and in that case he ought to have less. Do you think he will do enough work to entitle him to one half.

Touching Borden's patents for storage batteries we spent a long time discussing that. The amount of compensation to be given to him I will arrange to leave to referees in the future.

I have asked him to write a full statement of the present status of his inventions and patents. I will send it to you when I receive it. He has gone to Phila. to see Barker to night about this subject. The reason Borden did not go to see you this afternoon was your answer to my dispatch saying you would be at home this afternoon did not reach here in time for him to see you and yet get to Phila. It seems that Borden has two partners in the battery matter, first Paine in Fall River, and second, a lawyer by the name of Wood in Washington. I propose to cover these points by having them unite in signing any paper which

exact from Borden.

A young man by the name of Eickerd, an Englishman, 19 years of age, quite well educated in Chemistry and Electricity, is now working in the Siemens' shops in London. He is working on the arc light. The Brush light is driving the Siemens light out of existence and they are going to give up electric lights. He wants to stick to electric lights and proposes to come to this country. He is said to be a hardworker, studious, very intelligent, but very shy and retiring. His father has been in to see me and is very anxious to have him get in with our Company. He thinks his plan ^{is} would be for him to experiment at your laboratory. He can give the highest recommendations as to character and will bring a very strong letter from Siemens Bros. regarding his character and ability. I think it desirable to pick up such young men whenever we can. Do you want him?

Faure Battery. Hazard sends me the enclosed Report made to the Gramme Company from Phila. by Prof. Houston dated May 20th. It sets forth what he claims on second batteries. Hazard says that Keith shows an invention back in '78. Next comes Houston and Thompson in '79. Next comes Maloney of the United States Company, also Brush, also Faure in 1880, priority being between the three in the order I have named. The Faure company have given up floating a speculative organization. Whitney, a paper manufacturer, has now taken it up. The above named parties are all in interference with each other. Hazard advises that we at once go into interference by at once having something in the Patent Office if it will go back of October 1880 and will touch the Faure battery. He says an organization may be made of all of the above people to handle the battery business, possibly

including Brush, and that if we will only manage in some way or other to get up some sort of an interference with Faure or possibly with the others, no matter how slight, we could get in on the ground floor with that combination and get the benefit of what all the others have done and also all the profit to be made out of it. Have you any facts on which you can be put if interference should it seem best to do so back as early as the necessary dates? I enclose report of Houston to Hazard marked 24 B. Will you kindly return it?

I gave Card one hundred dollars. I took occasion of the granting of the favor to get him to extend his contract until the first of next January. I requested Goddard to supervise the extension and I have no doubt he has done so.

I wrote Betts a nice letter regarding his touchiness about my letter of criticism last week. He replies to day in a very gratifying spirit. Mutual good feeling is now restored and I think the net result is in our favor to this extent that he will feel that our eyes are always upon him and that we expect the very best work and want it from him personally and not from any of his young men.

I have a good many other things to write to you about but I am not only unusually busy to day but I am interrupted almost every moment. So I defer these other matters until my next.

Thursday Evening, May 25th. 1882. 8 P. M. This has been an unusually busy day with me. So was yesterday. I did not get my morning mail opened to day until after five this evening.

Borden has returned from Phila. He found Barker brimful of enthusiasm for the Edison light. Between the encouragement Barker gave him and that which I gave him I think he goes back feeling better, and disposed to fight the Brush and Swap combination with strong hopes of success.

The delegation from the South Carolina Company were with me a long time to day. Mr Mc. Caba, one of them, had note books and documents without end. I laid myself out, to the very best of my ability, and I verified what I said about the Swan patents by calling down Wilber and having him produce the Swan patents themselves and I also called in Clarke to corroborate certain things which I said. These people seem disposed to adopt the arc light and not to take our light but I gave them the true Gospel from Genesis to Revelations and I have still some hope that we may do something with them. Mr Mc. Caba said that the manager of the Swan-Brush light told him that they would give him ten lamps (Swan's) of 20 candles each per H. P., and that he could run the Brush light on the first floor of a hotel and the Swan light all through the rooms up stairs, all with the Brush dynamo and from the same wires. Just then Borden dropped in and I nailed that proposition with the assistance of Borden and Wilber. The party who made that statement to Mc. Caba has written Mr Brush to get an autograph letter from Brush verifying the statement. Mc. Caba has promised to let me see what Brush writes

if he is allowed to see it himself.

Kruesi had a conference to day about drawings for the street mains in the second district. We are going to advance the money from the Illuminating Co., and Kruesi will repay it when another order for central station is given.

A delegation from the Lawrence Co. called to day including Mr Clarke of the Pemberton Mills, and Mr Russell the big paper manufacturer at Lawrence. To my surprise Clarke and I recognized each other as old acquaintances in Boyhood. I gave them all the solid Gospel that I had a few hours before given the Charleston people. As regards terms I offered them the same terms which we gave the Chicago people. I wish we had some man of knowledge about our system, of judgment, of good address, and a good talker, to follow up the seed which I sow in this office in such cases, as for instance with these Charleston people and with these Lawrence people.

Dr Moses had a long interview to day about his taking up the arc light and going on with the experiment to adopt the arc light to our system. He will accede to my views with ^{the} single exception of terms. He thinks he ought to be given one half the profit coming from the manufacture of the lamps and carbons. I told him, as you suggested, that we would not give him any interest in the sale of current. He agreed to that. I do not think we ought to give him as much as one half interest which he claims. I think one quarter would be enough. I told him that with your assistance, the use of our laboratory, our paying the petty expenses, and with your assistance and advice, also with the prestige of our Company, also with the prestige of your name, that he

was not rendering enough service to entitle him to half the profit even on the sale of lamps and carbons alone. Pending the decision of this point he is at once going on with his investigations and experiments. I think we ought to fix a limit within which we bind ourselves not to take up any other arc light and to make that limit perhaps not more than three months from date. *

As regards what effect would be created touching Moses' interest in the case of our hereafter buying licenses and patents from other people or in case of your making any inventions without his assistance, I told him I could see no other way to cover these points in a contract and that we must agree to leave it to referees and be bound by their decision. To all this he assented. Now please tell me what he ought to have? Is one half too much?

Hearle has had a conference about a new departure in Canada, where our legislation in Parliament has failed. Parliament has adjourned without finally acting on our Bill. Parliament will not meet again until late next winter. Hearle has two plans which he talked over with Goddard. I made several criticisms, first that there were certain law points involved as to which we should first obtain the opinion of our own legal counsel in Canada. Second, that we could not deal with Hearle without his courteously notifying our other friends in Canada. This was assented to and I have asked Goddard to attend to these two points. Hearle's first proposition is to have our Canadian patents reissued and then come in under the new and later date. That is that we introduce our own material within statutory limits after this new and later date. That involves a question of local law and also a careful classification of our patents.

Goddard has promised to attend to the details of that. Hearle's other suggestion is to get a permit through the Council in Canada to introduce our machinery there for a year without invalidating our patents. He says we can get such an order. I told him that as matter of law I was afraid the Executive would not undertake thus to set aside the legislative functions. Upon that point I want the opinion of our counsel in Canada, notwithstanding the fact that probably the Council would not grant any right which they would not have the legal right to grant. But I ~~am~~^{do} not want to take any risks, so I want careful ~~law~~ legal opinion at each step.

Moore has gone to Columbus to wind up David and to decide what to do with the newspaper plant there. Thence he will go to Chicago.

Weed, Parsons & Co. the Law Printers, in Albany, have ordered an isolated plant. They will only take it on approbation. I have ordered it shipped.

I have a letter from Mr Lawrence from Chili dated April 17th. He says the plant is still running well.

Mr Lewis goes to Chicago next Monday night to begin the working up with thoroughness the record of Freeman.

I have not sent out the notices to the Swan and Maxim people yet. It is impossible for me to take up such a delicate matter, upon which I want to think for a half an hour or so before writing. This Swan-Brush matter has stirred up my indignation a good deal, and to day I feel more in a fighting mood than in a calm deliberative mood for such work as these notices.

I am impatient for next Wednesday to arrive. That is

the day for the next regular meeting of the Directors of the Gramme Co. I propose to force Mr Brush to take some definite position on the Swan matter. The only risk I run is that my aggression will compel him to buy the Swan patents out and out. But I think he might as well buy them out and out and tell the world so, as to do what he is doing now. What do you think?

The Chicago people have taken their big building on Wabash Ave and ordered a 250 light plant to light it up and to sell a few lights to neighboring stores.

Mott has been in to day pressing a decision about our buying his patents &c. I await your reply to my last memo. on that topic. As I read over his list of patents, I am in some doubt whether you invented the Edson Light or he did?

I am sorry you did not accept Mr Mc. Ginnes' invitation for the fishing excursion. He always has a fine lot of men with him and you would have enjoyed yourself thoroughly. The next best thing for you to do, if you will excuse the suggestion, is to rent a yacht for the summer and to anchor it in the nearest salt water opposite Menlo Park. You can rent one quite cheap from the yacht agencies. I know Com. Waller of the Yacht Club very well. He was an old client of mine. If you want to hire a yacht and cannot get one to suit you at the yacht agencies let me know and I will see Waller about it. I wish that I was a good sailor. But I am the poorest sailor in the world. If I were a good sailor I would hire a yacht myself and put it at your disposal whenever you wished to use it.

Borden is getting up a lecture to be delivered before the Commercial Club of Fall River on electric lighting. Barker has loaned him a Swan lamp, a Lane-Fox lamp and a Maxim lamp.

He says that last night he and Barker run a 25 candle Maxim light against an 8 candle Edison lamp, and that we beat the Maxim lamp out and out.

Barker has been invited to deliver a course of six lectures next winter before the Lowell Institute, Boston, on electric lighting. We must have Barker accept. Borden reports that even Prof. Gross was not only rather lukewarm but that he was also very ignorant of our light. Borden says Gross had wrong ideas about nearly everything in electric lighting.

Did you write to Painter for him to get a copy of Barker ~~Barker's~~ report on the Maxim light in the Mint? The Mint people made up their minds to order the Maxim lights out, but Weston craves the privilege of putting in a new Weston machine and of doing the job all over. The result has yet to come.

The Ledger people are delighted with our plant. Drexel has sent a long telegram himself to Pabbri. He says the printers would not go back to gas under any circumstances. He says they do their work faster and that they get their paper out quicker with the Edison light than they ever did before. That is good. We needed just such an argument as that in Phila. We could not possibly have had a better one.

The editor of the Nautical Gazette called to day with an account of our light in the Queen of the Pacific. I read it over and fixed it up for him to print it. I never heard of the paper before, but he assures me it has no end of circulation among nautical men.

Here is a copy of the Spanish translation of my pamphlet on the Edison light. You will see your name figures as President on the inside of the cover,

I have put Meadowcroft to work getting up a little article for the Spanish paper next Saturday which Mora. is going to get printed with illustrations.

Mr Navarro wants me to pick out another man like Rich to go to Havand to put in isolated plant. I will do so tomorrow. The trouble is to get men who will keep good habits and not drink too much in the temptations of the place.

By the way, I forgot to say that the South Carolina people told me to day that the Brush-Swan people told them they would guarantee the Swan lamps for 1000 hours and would give a written guarantee to that effect, 1000 hours life of lamps of 10 per horse power at 20-candles each. WHERE IS ANANIAS??

Clarke, Engineering dept. called on Prof. Draper last night. He says Draper states that our machine takes only about half the gas to run his gas engine that the Maxim machine does. It seems to require such little things as that to bring home even to such men as Draper a realization of the fact of the superiority of what we have over all others.

I have a good many other things to say but it is nearly seven o'clock and I am pretty hungry, so good by.

65 Fifth Avenue, New York City.

Friday, May 26th. 1882.

After giving the question of the apparent adoption of the Swan light by the Brush people a good deal of thought during the past few days, I decided on Wednesday to address a letter to Col. Hazard, the President of the Gramme Company. I wrote my letter and then immediately sent for Col. Hazard to call upon me. He came. I read him the letter and told him that I thought of sending it to him and I asked him what he would do with it if I sent it to him. He said he had already given the subject covered by my letter a good deal of thought ^{to him} ~~to self~~; that he believed the Brush Company was going ahead in regard to the Swan light without due reflection touching its obligations to the Gramme organization and the members thereof ourselves among the rest; and that he would be very glad to use my letter as an occasion to call the attention of the Brush people directly to the subject. It was then agreed between us that I would send the letter to him and that he would immediately forward a copy of it to the Brush Company and that he would let me see what reply they might make to it. Furthermore he assured me very earnestly that the attitude taken in my letter had his most cordial approval and that he would use his influence as President of the Gramme Company and as a Director to assist me in any plan I might adopt to force the Brush Company to give up the Swan light. ^{also} He thought they could not touch the Swan light either directly or indirectly without violating their obligations to the Gramme Company.

^{That}
The same day I saw Mr Hoyt, formerly President of the
₁ Gramme Company, and now Vice President. He is also one of
^{also}
₁ the Directors of the Gramme Company. I talked over this same
subject of the Brush-Swan matter with him and he committed him-
self just as fully and as earnestly as Col. Hazard had done.

Having thus prepared myself in advance far enough to be
pretty sure that I would have the co-operation of the President
and Vice President of the Gramme Company, I took it for granted,
and still do, that the Maxim interest, which has three Directors
in the Gramme Board, would also sustain me. That would give ^{me} ₁ ^{two} ₁,
including myself, six out of the nine Directors of the Gramme
Company.

Accordingly I, on Wednesday night, sent my letter to
Col. Hazard. The letter is as follows,

May, 24th. 1882.

R. R. Hazard, Esq. Pres.

City.

Dear Sir:-

Have you entirely abandoned the idea of calling a
"special meeting of the Directors of the Gramme Company touching
"the proposed Faure Co. ? I am anxious to know for the reason
"that we wish to bring up at as early a day as possible --- and
"such an early meeting would afford a suitable occasion --- the
"question of the Swan lamp. The New England Brush organization
"as I am quite credibly informed, is about to sign a contract
"with the Swan company, and I am also informed that the New Eng-

"land Brush Company is at present actually engaged in manufactur-
"ing the Swan lamp in Boston. Besides this, parties identified
"in the public mind with the Brush Company are actively moving
"in cities in New England touching the formation of companies
"to use the Brush light and the Swan light jointly. Moreover,
"it is said that recently certain of the managers of the local
"Brush companies in different parts of the country, were invited
"to Cleveland to inspect the Swan light which was there exhibited
"to them by the Brush Company, and some of these managers have
"stated, on their return home, that the Brush Company had adopted
"the Swan light and that it would be furnished by the local
"Brush companies in connection with the Brush arc light. Mr.
"Stockley, the Vice President of the Brush Company, assured me a
"few weeks since that the Brush Company had after careful con-
"sideration finally decided not to interest itself in the Swan
"light. Possibly the Brush company has changed its mind since
"then. If not, it is difficult to reconcile the position as
"stated by Mr Stockley with the information which is reaching us
"from various quarters, part of which I have set forth above.
"Until I am well satisfied to the contrary, however, I shall con-
"tinue to believe as I do now, that this apparent adoption by the
"Brush Company of the Swan light, is exaggerated, and that the
"reports which reach us are substantially false. But be that as
"it may, the Gramme Company should at once take some formal ac-
"tion against the Swan lamp, and should possibly issue a manifi-
"esto against it, pointing directly at the Swan lamp and mention-

"ing it by name, and such manifesto should be signed by all the
 "members of the Gramme Company. Without having given the matter
 "much thought, it occurs to me that it would be a proper thing
 " for the Gramme Company to issue such a manifesto. But of
 "course that is something which the Directors of the Gramme Com-
 "pany must themselves decide.

Should the Gramme Company commence litigation against
 "the Swan lamp, and to that end should all the companies compos-
 "ing the Gramme organization loan their patents to the Gramme
 "Company to facilitate such suit, probably our Company would
 "join, provided however our own counsel were entrusted, to a pro-
 "per extent, with the management of such suit. Whether it would
 "be better for us to sue the Swan company alone, or for the Gramme
 "Company to sue it alone, or for all the members of the Gramme
 "Company to bring separate suits, or for the Gramme Company and
 "ourselves jointly to bring a suit, is a matter we are not pre-
 "pared to commit ourselves upon. Probably the first thing to be
 "done is to have the position of the Brush Company definitely
 "formulated and we shall then be able to decide more intelligently
 "than at present.

"If you are going to call a special meeting of the
 "Directors, we should like to know it in order that we may de-
 "cide what course to pursue and what to ask of the Gramme Company
 "touching the matter above referred to. But if you are not going
 "to call a special meeting, probably the whole matter will have
 "to go over until the next regular meeting."

Very truly yours,

S. B. Eaton,

Vice President."

This letter reached Col. Hazard yesterday. Early this morning (Friday) I received a telephone message from Mr Stockley, the Vice President and General Manager of the Brush Company, saying that he would call upon me during the forenoon. He called a little after ten this morning and was with me two hours and has just gone. Our conversation took a very wide range and I deem it of sufficient importance to make a careful record of it while it is still fresh in my mind.

Mr Stockley produced a copy of my above letter which he said was handed to him by Col. Hazard yesterday. He said he thought the best way was to call upon me in person and exchange views fully. He then read my letter over aloud to me and complimented the tone of the letter and the accuracy of the statements made in it, and thought I had done nothing improper in writing it and stated that he would probably have done the same thing under the same circumstances. He then told me that all the statements made in my letter touching the adoption of the Swan light by the Brush people were true, except the statement that the managers of the local Brush companies in different parts of the country were invited to Cleveland to inspect the Swan light. He stated that he saw the same newspaper statement that I saw to that effect, but that it was incorrect. Otherwise he said that my allegations in the letter were true.

I treated Mr Stockley in a good natured manner and as he seemed disposed to be communicative I made up my mind at once to carry ~~my~~ our interview over such ground as I could get him to traverse.

Accordingly he went on partly voluntary but mostly under the lead of my questions to talk very freely and the substance of what he said I give below.

As regards the New England Brush Company, Mr Montgomery and Mr Rowley were appointed agents of the parent Brush Company in 1878 and a license was then given them for all the New England states, also such of New York and Pennsylvania as lie east of the 77th. meridian; also the entire states of New Jersey, Delaware and Maryland, also the District of Columbia. A license was given to these two parties for that entire territory and a contract was made with them on very favorable terms (the details of the terms Mr Stockley did not give me), whereby Rowley and Montgomery agreed to work up that territory for the Brush light and the Brush Company agreed to give them the exclusive control of all the Brush patents of every kind whatsoever.

Subsequently Messrs Rowley and Montgomery sold out this license to a company called the New England Brush Company which took title for all of the above ^{territory} ~~title~~ from Maine to the District of Columbia, and just now that company has again transferred its license thus obtained to a company called the ^{New England} ~~Brush-~~ Swan Electric Lighting Company, which thus becomes a successor to the New England Brush Company. Meantime some local companies have been formed taking a sub-license from the New England Brush

ent among them one ?
Company, ¹ entitled the Brush Illuminating Company of New York City. These local companies now participate in the advantages accruing to the New England Company by the formation of this new company called the Brush-Swan Company of New England (or some such title as that). Mr Stockley states that the contract with this new company was probably executed yesterday.

The Brush Company holds no stock whatever in the New England Company or in any of its licensee companies, nor does it participate in the management of any of these companies. The parent Brush company makes its money out of these companies simply by furnishing them with dynamos, arc lamps &c.

In this respect, it appears, the relation of the parent Brush Company to its licensee in all this territory above mentioned, is entirely different from the relation existing between our own Edison Company and its licensees.

Mr Montgomery some time ago went to England in behalf of the Brush people to sell the Brush patents there. He met with great success and made a good deal of money for himself and for the American Brush Company. While in England Mr Montgomery purchased the Swan lamp for the United States (whether it includes Canada I did not think to inquire). He came back to this country and tried to sell the Swan lamp to the Brush Company. They declined to buy it. Mr Stockley's statement made to me a few weeks ago when I had a prior interview with him on this subject is therefore still true. He then stated to me that the Brush Company had not bought the Swan light and he now repeats that state-

ment.

Mr Montgomery having failed to induce the Brush people to buy the Swan patents, formed a company in New York City under the laws of the State of New York with \$800,000 capital. This company bears the name of Swan, and it purchased from Mr Montgomery the Swan United States patents. The President of the Company is Mr Edwin Einstein, and the Vice President and Manager is Mr Montgomery himself. I asked Mr Stockley who the stockholders in the Swan Company were and obtained from him the following list,

T. J. Montgomery,
G. W. Stockley,
M. D. Leggett,
T. T. Tracey,
C. F. Brush,
D. L. Einstein,
Fred. Butterfield,
Kuhn, Loeb & Co.
A. G. Paine,
A. D. Suillard,
W. A. Wheelock,
W. L. Strong,
J. & W. Seligman & Co.
C. Delmonico.
G. M. Rowley,
G. F. Fairbanks,
S. P. French,
Joshua Hendrick.
Edwin Einstein.

He stated that the reason Gen. Leggett, Mr Tracey and himself (who constitute the leading stockholders and officers and the Executive Committee of the Brush Company), also Mr Brush, joined the Swan company as stockholders was simply because they felt very kindly disposed towards Mr Montgomery for the services he had rendered them in England, where the Brush shares are now selling at 700 on a par of 100. Stockley says that in return for the money which Montgomery had made for them in England they

consented, at his earnest request, to take some stock in the Swan company. He says however that they own but a small amount of stock. He further states that the Seligmans, also Kuhn, Loeb & Co. and the other stockholders were obliged to pay par for their stock, and that there was no ground floor in getting up the Swan company other than absolute cash at par.

The above gives the history of the New England Brush Company and also the formation of the American Swan Company. The other subjects touched upon in my interview with Mr Stockley will now be given with equal fullness.

Regarding an incandescent light, the Brush Company would prefer to ally itself with Edison. But I noticed that Mr Stockley nevertheless felt that the Swan lamp was an exceedingly good one. He states that 50 Swan lamps have been sent to Mr Brush, who has been using them on his storage batteries in Cleveland. He also says that Mr Brush tested the Swan lamps very carefully when abroad at Paris last year. Mr Stockley pays a very high tribute to the personal integrity both in conduct and speech of Mr Brush, also to his great caution and modesty in making statements. Stockley accordingly insists everything that Mr Brush tells him on the subjects mentioned in our interview this morning, must be true. He says that Mr Brush tells him that the Swan lights have a length of life fully equal to that of the Edison lights and that Mr Brush has himself seen the Swan lights run at a rate of ten lamps per horse power, each lamp giving say from twelve to fifteen candles. The Brush Company find that they are obliged to have an incandescent lamp to sell with their arc

lamp but Mr Brush feels that the ground has been so thoroughly covered by Mr Edison it is too late for him to undertake the invention of an incandescent lamp himself. Stockley says however that Mr Brush is cognizant of a substance for making the filament, which he regards as superior to any now in use. Stockley states that he knows what the Substance is, but of course he did not mention the same to me. He said it was something entirely different from anything now in use and was not of a fibrous nature.

But Mr Brush, Stockley said, has no idea of taking up the subject of incandescent lighting as he believes that no progress could be made in this country by himself in view of Mr Edison's patents.

Touching the running of the Swan lamp and the arc lamp on the same Brush circuit, I took occasion to repeat to Mr Stockley a statement that had been made to me yesterday by an outside party. I told him that a third party had told me that Mr Brush claimed to be able now to furnish a current from the same Brush machine for both the arc and incandescent lights, to run for instance arc lights on the first floor of a hotel, and to run incandescent lights over the same circuit on the upper floors.

This statement led to a long and somewhat confidential interview between Mr Stockley and myself. But in order to be free to repeat what was said I told him that I was very glad to get his statements as I would take great interest in repeating them to Mr Edison. He stated that what I had heard, as above given, was true? He says that Brush can run the incandescent and the arc

lights with the same current and with the same machine and at the same time. He states that Mr Brush did this in Paris and in England with the Swan light last year and that he showed the Swan people how to do it then, although at that time it was only a matter in the shape of a complete laboratory experiment but without being reduced to practical application in the hands of strangers.

He further states that Brush does not run the incandescent lamps in such current in multiple arc nor does he run them in series, but that he runs them in what Brush calls a compound parallel, which seemed to me from Stockley's statements only another name for multiple arc. He states that each lamp can be turned on and off just as our lamps are turned off in multiple arc, and that practically Brush could run incandescent lamps in connection with his arc lights with a result in every respect, for domestic use, the same as our multiple arc system. He states that the Brush machine gives 10 Webers of current, and that the Swan lights are run with that current, the same as the arc lights. He thinks the Swan lights have a resistance of only 50 or 60 ohms, but says his memory is not quite reliable on that, it being a matter that

Brush has especial charge of. He states that Brush has covered this system of compound parallels by three applications for patents, two of which have already been allowed but not yet taken out and that there is no doubt the ^{third} ~~same~~ will be allowed. He

states that the principles involved are entirely new, so much so that there is no danger of any interference in the Patent Office. This alleged achievement of Mr Brush is known to all the ^{of it} Brush people, in connection with Mr Brush's storage inventions.

which I will mention below, are the especial reasons why the Brush company are determined to have an incandescent lamp, even if they have to take the Swan lamp.

Regarding storage, Stockley says Brush began his experiments late in 1876. He says that a storage battery was entirely completed, similar to the present Faure battery, in 1878, and that both he and Gen . Leggett saw it, and that it has been in use more or less ever since, and is now in existence. He states that the date given by Mr Brush in his interference with Maloney is not Mr. Brush's earliest date. He claims that the Brush people surmised that the United States Company were behind Maloney and were using him for a sort of fishing excursion against Brush to find out how far back Brush's experiments on storage went.

Mr Stockley seemed to have about the same idea that we have of the morality of the United States Company in these respects. He said evidently their plan was to get Mr Brush's earliest date and to then prove an anterior date. This plan of the United States company was obvious to Brush, so he gave a date only far enough back to beat Maloney which he did. But in point of fact, Stockley says, Brush can go back long behind that date, and will now do so with the interference with Faure.

Brush has filed about thirty applications for patents on storage. He has given more than three times as much time and attention to it for the last five years as he has given to any othersubject. He has always claimed, Stockley says, that the future of electric lighting was in the direction of a current of very

high tension and of storage.

Touching the efficiency of Mr Brush's present storage battery, Stockley states that if you indicate a steam engine and then transfer the power into electricity and store it in the Brush battery, the amount of available force ultimately given off will be from 80 to 85 per cent of said indicated horse power. Stockley says that there is no question whatever about this. He states that Mr Brush has experimented a good deal with the Faure battery and that he does not hesitate to say that his own battery is more than twice as economical as the Faure.

Brush has an automatic device attached to his battery which opens the circuit connecting it with the replenishing wire as soon as the stored electricity is mostly exhausted, and which automatically closes said circuit as soon as the battery is filled. He also introduces a ^{metallic} ~~metallic~~ ₁ between the wire and the battery in order to charge for the current stored. The operation of storing the battery can also be carried on while the current is being drawn from it for lighting purposes, without disturbing the regularity of the current. The battery is also permanent, and, better than that, it increases in efficiency with use. Brush finds that the longer he uses his battery the more receptive for current it becomes. The acidulated water which from having to be frequently renewed constitutes a troublesome feature of the Faure battery is obviated so far as trouble goes in the Brush battery. Stockley claims that the battery requires very little care and will almost take care of itself for long periods of time.

Stockley states that the Brush Company are obliged on

Sunday, when only half the number of arc lights are burning in stores, to connect their circuits. He sates for instance that 1st Sunday in this city one 40 light Brush machine run 42 arc lights over a number 6 wire 41 miles in length. He claims that principle Mr Brush will feed, on the same xxx, a large number of storage batteries, permanently located in difgerent buildings over a No. 6 wire, and thus dispense with the expense of conductors and be able to deliver an electric current a long distance of for incandescent lighting.

Regarding the transmission of power, Stockley states that Brush has made a special study of that, and will, as soon as he brings out his storage battery, develop his improvements in that regard and introduce them to the public. Brush feels that the feature of the transmission of power alone, points to an enormous field.

I expressed to Mr Stockley my great regret that the Brush Company had taken up the Swan light. I went over the two Swan patents and explained how worthless they were as compared with our patents and our system. Stockley said that that matter had been given very careful attention both in England and in this country, that it was expected that Edison would sue Swan both there and here, that they had been surprised he had not done it before, and that they felt confident of their defence. I knew however succeeded in impressing him, I think, with at least some doubt as to the wisdom of relying on the Swan light for incandescent purposes, and I am pretty sure he left my office feeling a good deal less confident in that regard than when he entered it.

that he
 Mr Stockley informed me controlled and voted on a majority of the stock of the Brush Company, thereby personally controlling its management. He further told me that he individually, and not as company, had purchased and owned a majority of the stock of the American (Thompson & Houston) Electric Lighting Company of New Britain, thus, he said, he controlling two members of the Gramme organization, namely, the Brush and the American.

We exchanged views on the fact that the United States Co. controls as many as three votes in the Gramme Company and he agreed with me that each actual interest, no matter how many companies were represented, should control only one vote.

Regarding the attitude of the Brush Company in adopting the Swan light, to turn to that subject again, he stated that the Brush Company had no means whatever of controlling the action of the New England Brush Company. He stated that even the joining of the name of Swan to Brush in the title of the new New England Company was something which the Brush Company could not prevent even if they wanted to. He said that the New England Company owned this territory and could make any combinations they pleased. The parent Brush Company has not yet of itself formally adopted the Swan light, and *may not* ~~is not likely to~~ do so. But it was ^{than} ~~the~~ interest, ^{than} ~~the~~ absolute interest, ^{to} ~~of~~ having an incandescent lamp, and at present the Swan lamp seems the only available one. The feeling of all the Brush people towards the United States people is such that they would not, except as an absolutely last resort, touch the Maxim lamp.

I explained to Mr Stockley what I considered a member

of the Gramme Company to be, namely, that our Company, for instance had a right to insist upon the Gramme Company and all its members *uniting with us in* crushing out the Swan lamp in this country. I illustrated my ¹ views by supposing that a foreign arc light was brought to this country --- say for instance the Soleil and was offered to us; that we refused to buy it; that a Soleil company was then organized and our officers took stock in it; that the Chicago Edison Company bought a license from said Soleil Company for its three states and changed its name to the Edison-Soleil Company. I asked Mr Stockley if the Brush Company would not probably object to that. He said they would. I asked him if they would not probably ask the Gramme Company to crush out the Soleil lamp. He said he thought they would. I asked him what he thought our duty as a member of the Gramme Company would be under such circumstances. I told him that there would be but three courses open to us in such an imaginary case, namely, first to buy the Soleil patents and become absolute owners of them, and thereby bring them into the Gramme Company as part of our own patents. second, to persuade the Gramme Company to let the Soleil Company into its membership; and third, failing in that last plan, to ourselves withdraw from the Gramme Company. I told Stockley that the Brush Company, in order to preserve its reputation for good faith must either unite with us and the Gramme Company, ^{should} such _A we so request, in crushing out the Swan light in this country, or they must themselves withdraw from the Gramme Company. He said he should require time to think that thing over. I promised him that

I would not bring it up at the next meeting of the Board of Directors of the Gramme Company next Wednesday unless he was ready to meet the issue, but that I expected his Company to look the facts squarely in the face and to treat us just as they would like to have us treat them under like circumstances.

My own impression is at this moment, that I will not force this subject of the Brush-Swan matter at the meeting of the Gramme Directors next Wednesday. My interview with Mr Stockley went so far that I am satisfied he would be glad to renew it in favor of bringing about a combination in some way between the Brush company and ourselves. ~~We can possibly get along without an arc light.~~ We can possibly get along without an arc light. If we want one we can probably invent one ourselves, to run in multiple arc, without possibly infringing on these ^{the} three patents of Brush. But the Brush company are obliged to have an incandescent light. They feel that they have almost reached the outer boundaries of the area of arc lighting. They must now have an ~~arc~~ ^{incandescent} lamp. It is for us to formally consider their necessities, and to decide whether to make an arrangement with the Brush Company in such a way as to enable us to continue unfriendly relations, or to let them take up the Swan lamp and thus from that moment become hostile.

My entire interview with Mr Stockley was exceedingly satisfactory. I found him clear, prompt and intelligent, and we parted feeling, I am sure, a very strong business friendship for each other.

Mr Stockley is undoubtedly truthful, that is to say he always believes what he states. But he is not an electrician, and I noticed all through his talk that he manifested some uncertainty in speaking on purely electrical matters. Regarding some of the results which he says Mr Brush has obtained, possibly Mr Stockley may be misled. It is also possible that the results may have been approximately obtained in the nature of a laboratory experiment, which is an entirely different thing from the commercial results available in selling light. Mr Stockley's statements can ^{be} fairly taken with these limitations. But such as they are I have given them above. It is now for us to decide whether I shall go forward and take advantage of the cordial relations this morning ^{established} between Mr Stockley and myself, if we see any benefit in it.

I should state before closing that my object in my conversation was, first, to convince Mr Stockley that he was making the greatest mistake in the world if he took up the Swan light not only because it was inferior to our light but because our patents would ultimately force it out of existence; and second, to ascertain Mr Stockley's views touching his own company, its management, its prospects, and its necessities regarding incandescent lighting. The matter which was discussed beyond these two points he talked more about than I did. That is to say I allowed him to do most of the talking about Brush running arc and incandescent lamps in the same circuit and about transmission of power. I said ~~making~~ ^{enough} however to show him that we considered ourselves absolutely strong on all those points, but I did not go

into details.

This matter has taken up nearly all my time to day so I will defer mentioning the matters on current business until my next memo. I am tired, have a headache, so I will stop. Good b

By.

S: B.E.

Handwritten initials

Handwritten date: 11/20/53

RECEIVED
MAY 31 1892
ANSWERED

J. P. May 1892
Monday, May 29th 1892 - 11 - 30. Mr Hoskin is now
FILE NO. 1882

established in his office and has his letter heads printed as "Office of Agency for States of Pennsylvania, New Jersey and Delaware". He does not have all that territory, but that is what he calls his office. If I am not mistaken in my estimate of him, he will do good, thorough and intelligent work for us.

The Public Ledger people already want more light. They are talking of exchanging their Z dynamo for one of 250 lights. Mr Rowh wants it made especially for him with three bearings for the armature shaft and two driving pulleys, viz., one in its present position and the other outside of the commutator bearing and between it and the new or outside pillow block. They have only 60 lbs. of steam.

Thurber has given us a letter of recommendation for his plant in this city.

The Danforth Locomotive Works ^{say} that their plant is giving them more trouble than it is worth and that they break too many lamps. They say if it is not made to run better they shall order it out. Vail says he does not understand what the trouble is and will immediately send a first class man to investigate.

Navarro wants a man to go to Havana to put in isolated plants. I selected a man but he declined to go Saturday as two of his family had already died there of Yellow Fever. I have now written to Deane asking him to select somebody for me.

The people over in Paterson and Newark have organized their Edison Illuminating Company, Gen. Spencer is President.

Mr Mc. Pherson is Vice President. John Kennell is Secty. F. B. Wright is Treasurer and John Noonan is Gen. Manager. Senator Hobart, Spencer, W. J. Holmes and Noonan have been appointed a Committee to confer with us about details and to have a more

formal contract drawn.

Borden's assistant, Paine, is now at work at Lewistown, Me., trying to get orders. He says that our system is well appreciated there and that for inside lighting, in the interior of mills, it is preferred to the Brush light. The Brush Company are forming a good many local organizations down there through their Boston branch company. Many of the mills down there own their own gas mills. Paine says that in figuring the cost of the gas when they make it in their own individual gas works, they do not reckon interest and power (water power) and they figure their gas in that way at even less than 70 cents a thousand feet. Paine got no orders in Lewistown, the mills all either owning their own gas works or the officers being large stockholders in the local gas company. But he says our system is well understood there and he thinks his visit has sown good seed. He says one thing is sure, that they will buy no more individual gas plants. The Arnoux & ~~Harmon~~^{Stochamus} people have a strong Company in Portland and they are trying to capture the electric light business in the State of Maine. So now they, also the Brush and ourselves are at work there.

I have a note from Paris written by Bailey dated May 17th. It contains nothing but an apology for not having written during the past few months. I told Insull a couple of weeks ago that I guessed the reason Bailey did not write was because that his time was taken up in managing the Paris Company. Insull said I was mistaken about that, as your letters from Batchelor would show. Either Batchelor or Bailey is misleading us. Bailey gives as his sole reason for not having written the excuse that his entire

time, every moment of it, has been devoted to managing the Paris Company. Evidently there is some difference of opinion on this question between him and ~~Rixx~~ Batchelor.

I also have this morning a letter from Puskas & Bailey dated May 17th. I wrote for details of the installations they are putting in, in order to get some items for my Bulletin. They reply that they have not time to give me the particulars but they give me "only a hasty review from memory." It is almost too hasty and too vague for my use. Still I can extort a few items from it. They say they are going to put in a central station in Berlin like the one in London. Also one at Frankfurt.

The Tax Assessors have fixed the basis of taxation of our Company for the current tax year. The return made by Goddard was that our stock was issued for inventions except \$179,600.

which was the amount called in in cash and expended on experiments &c. They therefore taxed on \$179,600. On the whole I think we got off pretty well.

Mr Stockley has been called home to Cleveland by the illness of his wife. He will return on Wednesday if I insist on bringing the Swan matter up before the meeting of the Directors of the Gramme Company on that day, for action. I tell Hazard that Stockley need not come on then. Meantime we must decide whether we wish to have any arrangement with the Brush Company. I have thought over the matter a good deal since Friday, but of course shall do nothing and say nothing until I get your views. Whether we had better find out just what they have got, more accurately than Mr Stockley states it, is the first question to be decided. If that is to be done, the only intelligent way to get at it will be for you and Mr Brush to have a personal con-

ference. I shall await your views.

I have received Jehl's pamphlet on the meter. It is hardly adapted for the Bulletin, else I would reprint it. What do you say to my referring to it in the Bulletin, and to my saying that we have a few copies which would be furnished to stockholders on application? I want to pay Jehl a compliment of some sort of a notice. What are your views?

Saturday night the Light Company had in bank, \$1,004 the Illuminating Company \$1154; Isolated \$14,489.

I have another letter by this mail from Puskas & Bailey. It is about selling Denmark, by the European Company, to some people in London, to have a Denmark company arranged in London. If anything comes of the proposition they will telegraph us about it, and it will then be time enough to discuss the subject of the letter.

I have still another letter from Puskas & Bailey, also dated May 17th. It contains a partial translation of the German contract. They state that they will send the balance of it by next mail. They state in their letter what the terms of exploitation are, but I find it somewhat difficult to understand it. The best I can make out of it is that the Continental Company is to have 15 per cent net in the shares of all companies formed, and that in regard to lamps used in central stations there is to be a profit of 50 centimes of which 40 is to go to the Continental Company. It seems they give the manufacturing and the small plant business to one company. They claim in their letter that the amount coming to the New York European Company shall not be less than 56 per cent and not more than 61 per cent. They also want authority from us for them to execute a power of attorney for

signing the German contract a special power being necessary because the terms of the contract are exceptional. It is pretty hard for me to make much out of their letter, and inasmuch as they say they have sent only a portion of the contract I do not see that we can act intelligently in the matter. But I will go over the matter more carefully on Tuesday.

Still another letter comes from Puskas & Bailey, dated May 17th. It is urging that their 5 per cent commission may be allowed them at once. They say their expenditure at their Paris office for the Exposition amounted to 136,000 francs up to the time the new company took possession. Since then their cost of living and traveling for the business of the European Company has amounted to enough to make the whole sum up to 200,000 francs, without any salary. They want 5 per cent of the shares we have now received. For this they will attend to the business for three years.

They wish to be appointed the sole representatives to the European company in Paris and decline to allow any third person to be joined with them.

I notice that the letters from Puskas & Bailey usually bear their signature on the bottom of the last sheet, and generally the text of the letters fall short, sometimes half a page of writing to their signature. Evidently they sign sheets of paper in advance and allow somebody else to write the letters and send them on. That accounts for the somewhat unintelligible letters we get from them. Mr Bailey is doubtless too busy and is away too much to read the letters over after they are written or indeed to dictate them.

Still another letter from Puskas & Bailey comes,

also dated May 17th. Bailey will come to New York the last of June.

Bailey cables to me this day asking me not to press their claim for their commission being at once settled as per their letter above referred to, unless the Board are quite willing to grant it. At the end of the cable he says "Tell Edison advances arranged."

Mr Rau (Wallerstein's friend) has given up his old business and he and Bailey have been named jointly Managing Directors of both the Continental and Electric company with full powers. They have to make weekly reports of what they do.

Goy. Howard wants to get a letter from you endorsing the Armington & Sims engine. I gave him no encouragement. Probably he will write you directly about it hereafter.

Mr Keith (formerly with Fuller Company) was in Friday night to see you. He wants to see you about his own storage battery.

We expect to have a hearing about Thursday before Anderson (insurance) about our paraffin wire in the down town district. Also about his rules for us to wire fixtures. I suppose you do not care to come in to be present. I will take

Clarke along with me. Osborne has been in to day to talk about it. By the way, Osborne is looking into the storage battery for the Faure people, to see what action insurance people will take about it.

We are now setting up the fifth dynamo at the Pearl St. station. The boilers are now filled with water. Hor-
nig will not build his fires this week as he once thought he
should but expects to be able to do so next week.

Clarke, Goddard and I had a long conference Friday
night over various matters, pursuant to appointment previously
made. We decided to send Mc. Question to take charge of Stew-
art's meter business. We decided to do away with safety-catches
at the ~~lamp~~ lamp sockets and to attach it in the branch wires
running to each fixture individually. Possibly the insurance
people will not consent to that. That is one of the questions
to be discussed with Anderson. Clarke has hired a man by the name
of Major at 25 dollars a week to take charge of starting the
central station. We discussed the question of coal supply and
I have directed Goddard to attend to some details about it.

It has been proposed to light our building here from
the Isolated Company on 6th Avenue. I have vetoed it. The
trouble with it would be that we would have no dynamo to exhibit
in this building. Most of the people who come here, meaning
business, wish to see the dynamo itself. Possibly after we get
started down town we could do it.

Clarke says that the 250 light dynamo is a great suc-
cess and is the best dynamo we have ever yet built.

RECEIVED

Wednesday, May 31st. JUN 1 1882 - 15 P. M.

ANSWERED

Mr Paine has secured ~~the~~ ~~rights~~ ~~from~~ the Worumbo people. Also a possible order from the Bates Company. The Worumbo is as important a one for the State of Maine as the Wamsutta order was for Narragansett Bay.

The European Company notifies me that Batchelor will no longer attend to the patents there, and that the European company will ~~it~~ take charge of them hereafter.

Your suggestion that we should at once work up local covers a point which I have thought a good deal about. The trouble is that our Board of Directors have been unwilling to fix the price for a license, except in rare instances where we did not dare delay. I will bring the matter up before them at the next meeting and if I can get them to fix the price of a license I can form companies with a good deal of rapidity, either with or without a competent assistant.

Mott is at work on a more full statement of what he has to sell us.

What you say about the valuable point touching our lamp, namely, its high resistance is carefully noted. I do not like to mention that fact in the Bulletin because I think it would spur up the other people to increase the resistance of their lamp. As I understand it, they can make a high resistance lamp if they know how to and have the necessary skill as manufacturers. Is it not probable that they will gradually acquire that knowledge and skill? If so, I do not wish to hasten it, by pointing out in the Bulletin the fact that they need such improvement. How does that strike you?

Regarding the effect of reissuing our patents in Canada, Mr Lowry has already spoken about it, and we have also had it

in mind ourselves all the time. I mean Goddard and myself.

The amended lamp contract has been handed me by Mr Lowrey. I will try to take it up without much delay.

Regarding a company in Phila. I have been pressing that pretty strongly with the Drexel people. Their decision is not to form a company until we can get our central station started here. Meantime we are losing no especial ground there, in the opinion of both Barker and Hoskin, whom I have fully consulted about it. My own wish was to have the Phila. Co. formed at once. But the Drexel people decide to wait until our station is started here.

Have no fear that I will let the Gramme Company have anything to do with our litigation in any case whatever without first having full conference with you and Mr Lowrey. Please do not lose sight of the fact that my present talk about having the Gramme Co. litigate against Swan is simply a skirmish on my part in order to draw the fire of the Brush people.

Here is an article from the San Francisco Chronicle and from the San Francisco Examiner. Ladd's interview about the American Co. is first rate. That of Mr Roe is slashing but good. Please return them to me at once as they are the only copies we have.

I enclose herewith letter marked 31 A. Please return it. I have written him regarding the last paragraph in this letter.

The Gramme Co. has sent me a copy of the French L'Electreicien for October 1st. 1881 containing an article on the electro motor by Griseomb. Also a circular issued by the Electro Dynamic Co. of Phila. offering to sell double induction motors for all kinds of purposes. I enclose the circular marked 31 B.

Will you please return it.

Here is a letter from Mc Carty dated May 4th. which is very interesting. It is marked 31 C. Please return it to me. Scientific men in Rio are about as infallible as most other scientific men who touch the subject of electric lighting

Bergmann's final bid on meters is \$9.00 for 20 light and \$13.50 for 50 lights, for an order of 500 meters.

The question of mailing Bulletins to old applicants for license and the question of working up a fresh excitement in various localities in that way, I have at last been obliged to turn over to Col. Goddard with instructions for him to mail the Bulletins. I have not been able to get time to give it attention myself.

The Commission of the Congress (I believe they call it Chambers) in Brazil has made a report on the request for patent rights made by us, also Brush, also two others. The report is unfavorable and has been signed by all three members of the Commission. It is pretty hard for me to understand the explanation given in a recent letter from Moore & Co. of Rio to Fabbri & Chauncey of this subject. It is as clear as mud. My guess is that there is a law now pending providing that no patent shall be granted in Brazil if said invention has been previously patented in any other country. Inasmuch as that law is now pending before the Congress the Commission recommend that the application of Edison and of Brush and others lie over until said law is finally acted on. The report of the Commission also recommends that no privileges be granted in Brazil unless the parties undertake to manufacture the articles there and the proposed new law embodies a clause making that condition obligatory. We must if it becomes

a law, either go into business there without patents, or we must send material and skilled labor and start factories, which is of course out of the question. If we do not do one of those two things we must keep out of Brazil for the present and wait until there is further legislation. Moore and Co. are going to stir up the local press on the subject. They are much disappointed at this turn of affairs. I have asked Fabbri & Chauncey to inquire of Moore whether there is any reasonable hope for favorable legislation hereafter, say within a day or two. If they think there is not, is not our best course to throw our patents overboard in Brazil and to introduce our light there, relying on our energy and the superiority of our plant to give us business?

Handwritten notes:
 1-1-18
 1-1-18
 1-1-18

Ans'd to June 22
(June 1 1882)

Thursday, June 1st. 1882. 4, P. M. Touching your memo-
for me to ask Wilber about your applications for arc lights
and Edison lights in the same circuit, Major Wilber states that
the only applications for arc and incandescent lamps in multiple
arc, or in anything on that or kindred subjects, were filed in
November 1881. There were four applications. Application
No. 373 was for an arc and incandescent lamp over the same cir-
cuit or in other words a system of electric lighting containing
both arc and incandescent lamps. In this application it was
necessary to show the arc lamp. The arc lamp which was shown
is covered by application 370 which is for an arc lamp arranged
in multiple arc. The third and fourth applications were Nos.
369 and 371 which related simply to details of arc lamps sus-
ceptible of being run in multiple arc. These last two applica-
tions have been allowed and patents are now ready to issue.
One was allowed January 23rd. 1882 and the other was allowed
Feb. 20th. 1882. Application No. 370 has been rejected. The
reason assigned by the Patent Office for rejecting is that the arc
lamp shown is inoperative and will not work. That rejection,
therefore, puts in issue not only application No. 370 but also
the ~~broader~~ broader claim contained in application 373, wherein
the arc light which is alleged to be susceptible of being worked
with the incandescent light is the identical arc light referred
to in No. 370. Wilber says that if the criticism on the arc lamp,
No. 370, is well taken and if such criticism cannot be obviated,
we shall have to abandon No. 370. But it does not necessarily
follow from that that we cannot so amend No. 373 as still to hold
it. But such amendment would have to be in the line of the adop-
tion of some other arc light which would be approved under the

conditions set forth in the claim 373. Wilber is impatient to see you about this in order to decide what to do. The date of the last rejection of No. 370 is March 10th. but No. 373 has been laid over by consent of Wilber since December 28th. waiting to see what finally became of No. 370.

Therefore as the matter now stands we have nothing allowed us on the broad principle of running an arc and incandescent light in the same circuit. Whether or not we should be put in interference on the claim of No. 373, if it were so amended as to satisfy the office, is something which we cannot yet tell. We should not know what others were doing in that respect until after we had made our claims so that they would stand. Wilber says he has several other cases he wishes to see you about and would go to Menlo Park on Sunday next or on any other day agreeable to you. Regarding the broad subject of working the incandescent lamps and the arc lights in the same circuit in multiple arc, there is nothing which would cover the Brush arc light, which is referred to in Mr Edison's memo. to me. Nor does it appear that any application is filed further back than Nov. 28th. 1881, the applications having been sworn to six days earlier, namely, November 22nd. In this connection I hand you Wilber's memo. to me marked 1, A, which please return.

Your directions about sending the 110 volt machine to Prof. Draper is having immediate attention.

You told me you had a lot of things at Menlo Park belonging to the Light Company which you wish removed. Clarke will go out and look them over. I wish Mr Insull would furnish us with a list of them. Will you kindly have that done?

I am going to write to Chicago asking them if they

would like to select a good man to send on here to study central station lighting, so as to be prepared to take charge of their future plants out there.

Regarding young men to learn our business I think I will employ both Wheeler (young Curtis' friend), and also Dickerson (the young man who is now with Siemens near London).

A meeting of the Gramme Directors took place yesterday afternoon. I was there promptly at 2 o'clock, the hour of the meeting, and had the pleasure of waiting 40 minutes for ~~xxxxxxx~~ xing a quorum. Stockley was not there owing to my agreement that I would not force the Brush-Swan issue yesterday. That subject will come up at an adjourned meeting next week Thursday, (June 8th.) to which time I consented to adjourn it. The Pres. of the United States Co., also the Pres. of the American Co., also the Pres. of the Gramme Co., also Mr Hoyt (they were all that were present) agreed with me and my position touching the Brush-Swan matter and I think we can force Brush into a decided stand one way or the other.

The suit of Gramme vs. Hochhausen is ready for trial. Hochhausen is trying to delay the trial. Dickerson & Dickerson have drawn his answer for him and have put in every possible defence such as bad title to the patent, also Pacinotti, also the Austrian patent. Now that we have joined the Gramme combination the Dickersons will not try the case for Hochhausen probably. The Gramme company want to force the case to trial before Judge Blatchford at his cottage at Newport this summer. If Hochhausen will consent they propose to agree to give hochhausen a license hereafter, for consideration, provided Hochhausen is beaten. I objected to any such collusion and I have stated my views briefly

in writing this day and Hazard will send them to Gordon and Seward. I want the Gramme Company to conduct their business without collusion, also in such a way as to gain the confidence of the courts and the public for honesty in litigation. The Gramme patent together with the Brush patents and the others are sufficient to kill Hochhausen. So there is no need to do anything collusive! I propose to look into that matter carefully before I consent to it.

I was glad to see yesterday that the Gramme Company was doing some good in facilitating litigation between its members. For instance, the Fuller Co. was sued by Brush who claimed that Fuller was infringing on five patents. The Fuller Co. placed its machinery at the disposal of the Brush people and the latter placed its machinery at the inspection of the Fuller people. The result was a conference between the lawyers and experts on both sides, whereby the Brush people voluntarily abandoned four out of their five claims. That fifth one they have submitted to arbitration, but do not bind themselves necessarily to abide by the verdict, but it is understood that the verdict will probably be accepted. The Fuller company have agreed to abide by it no matter whether Brush does or not. That certainly is better than a long litigation in court.

A like suit between Brush and the United States Co. is being conducted in the same way as the above suit with Fuller. The Pres. of the United States Co. states that this policy of settling disputes matters is being appreciated more and more by his company.

Hazard made a report on facilitating honest transactions in electric light stocks, on giving them a fixed value in

the market and on making it possible to borrow money on them. It seems he went to the banking house of Taylor and made them promise to make a special department for electric light stocks and to agree to loan the usual broker's twenty per cent. on their value, for speculation, also for legitimate loans, provided some banking establishment would loan the other eighty per cent. Hazard then went to the New Loan & Trust Company which is now being organized, and has arranged with them to take one or two electric light people, probably Hazard himself, into their Board, and then loan perhaps eighty cents on the real value of electric light stocks, just as they do on other stocks. But both Taylor and the Trust Co. want the leading electric light companies, for instance the companies in the Gramme organization, to give an official recognition of the scheme. I took the ground at the Gramme meeting that the Gramme Company could take no official action whereby they would seem to give two concerns a monopoly of this business, but I stated that the Pres. of the Gramme Co., unofficially, might, ^{say} so far as our company was concerned, that we would be glad to have the sheme carried out. I further said that I thought our leading stockholders would approve of the plan as one calculated to give electric light stocks a fixed value, free from fluctuation, and make it possible to borrow money on them, which is frequently a great convenience. But I said he could take no official action in the matter.

The legislation against patents which is now pending in Congress I found was having some attention from the Gramme Co., but not adequate attention. I arranged for sufficient data to be obtained to enable the Pres. of the Gramme Co. to make a

report. I may then suggest that the Gramme Co. employ Mr Conkling or Mr Boutwell or some other proper person to appear before the Senate Committee, to make an argument, jointly with representatives from the other leading patent interests.

The present capital of the Brush Co. is three millions of dollars. Their stock is selling at one hundred and seventy five dollars. That makes the market value of the company five millions two hundred and fifty thousand dollars. That is equivalent to our stock at a little over seven hundred dollars a share.

A good many other things were done at the Gramme meeting yesterday, but nothing of importance. I could see that there is plenty of work to be done there, and I could see that if I do not look out it will all devolve on me. What I mean by that is that work there as every where else is pretty likely to get on the shoulders of a man who does work.

Hazard stated at the meeting that Mr Stockley had authorized him to say that out of Mr Brush's thirty ~~xxxxxx~~ applications for patents on storage batteries, twenty three patents had been already allowed, but none had yet been taken out.

This day I had a conference with Anderson at his office about the paraffina wire in the first district and about wiring chandeliers and brackets. The first question was settled to my satisfaction. Anderson will allow the paraffinewire to remain except in rare instances where buildings are especially hazardous. He states by the way that in the case of the recent fire at Koch's he could trace on the wood work where the fire ran along our paraffina wire as it would along loose cotton.

Regarding the wiring of fixtures, Anderson does not

see his way clear but will not allow any deviation from the adopted Board rule, namely, that there must be one half inch of wood, or other equally good insulation, between the two wires, and also between each wire and the metal. We cannot consent to that. We have accordingly taken a week to think the matter over. When we have thought it over Anderson wants to go out to Menlo Park to see you about it, also to see some tests made on the method which we propose to adopt which we told him would be in the nature of some flexible insulation for the inside wires of fixtures, also to see the electric railway run. He says he wants to Mor-ton with him. Of all this we will notify you in due time.

I think Anderson's concession regarding the paraffine wire is all that we could ask, and I think now as I have often thought before, that we are very fortunate in having such a straight and honest man as Anderson is, in such an important position to us.

Paine, from Borden, has been here to day. He wants the order for the Worumbo mill carried out at once. Possibly that mill, and the States mill would run all night if they had our light. The Arnoux and Hochausen arc light has been tried and discarded as an experiment, and the Maxim light has also been tried by the Worumbo people and discarded. There is a good chance for our light to do well there.

Isolated stock is in demand. Eighty five dollars per-
mium was offered yesterday and no stock could be purchased at that price. Parent company stock is a little weak.

Regarding Canadian matters I think our best policy is to at once try to get up a Canadian company and to employ Canadian capital in manufacturing in Canada, just as has been done in France for instance. Whether they need manufacture an entire

plant, or whether it would be enough to make portions of it, is something which we can determine hereafter. Our system patent would not save us, because we should have to introduce the articles themselves, and the Canadian patent law provides that any patents shall be invalid when the subject matter thereof or the articles used are made outside. I am not quite clear about this, but I am quite sure our system patent would not save us. I say again that it seems to me the only thing for us now to do is to employ local capital up there and go to manufacturing at once. If we cannot get the local capital, then we can decide whether to throw overboard our patents in Canada and go ahead without them, shipping everything from here. In that case we should have nothing to sell in the shape of a license to any company in Canada, which of course makes such a policy as that suicidal to our interests. We must not forget that our fundamental lamp patent, including high resistance, expires in Canada in 1884, and that that will work the expiration of our patent here, unless suitable legislation is first had in this country. Whenever I can get time to take the matter up, I will consider whether we had not better employ the Gramme company in favor of getting up a movement to operate on Congress for the purpose of getting legislation on this point.

In this connection let me say that Wilber still hopes to get his new application allowed which will save high resistance for us even after 1884.

The dynamo in the Ledger Building in Phila. gave out yesterday. The impression made on me by the correspondence is they had too many lamps on it. They could not run last night, and Moore has just gone to Phila. to straighten it out to night.

By the way, my friend Norman Williams has written me a personal letter from Chicago reflecting pretty hard on Moore's conduct while there last week. Apparently Moore got into a towering passion and had a row with Stager and everybody else. Williams says Stager had to polish him off in a pretty rough manner. Moore sneered at the Chicago company and said that telegraph people and telephone people were not fit to handle electric lighting. Williams writes me confidentially as an old friend to say that we must keep Moore at home hereafter.

Your Memo, about the Faure people charging our wires in this house is received. I have arranged with Clarke. We will let them use our machine at its actual cost to us four hours in the forenoon or they can use right through Saturday and Sunday next.

Mr Anderson, Board of Underwriters, told me to day that he had been up to inspect the Faure battery and that it was an absolute failure. He says he was never more disappointed in anything. It seems that the Faure people wanted to take an office in the building of the United Trust Co., and that the insurance people had to see whether the use of the Faure battery there would affect the insurance policies. In that way Anderson was obliged to look into the Faure battery. He thinks the danger is the same as from our system for instance, neither more nor less. But as regards the question of the commercial value of the Faure battery, he thinks it a humbug.

Anderson says that you promised him, and he says that he has reported it to other insurance officials, that before we lighted up down town, you would rig up a building at Menlo Park and would invite the insurance people to set it on fire if they

possibly could. He says he would like to have you keep your promise in that regard, and he would like to have it done at the time of his proposed visit say a week or ten days hence. I suppose you do not care to be bothered with this. But if you do care to take the trouble it would be a good thing for us. What do you say?

The system of weekly reports from the solicitors of the Isolated Company is working well. The new blanks gotten up for these reports have a tendency to compel the men to make the reports regularly and fully. I will try to think to send you one or two of the reports of last week. They afford an interesting study especially touching the question of the reasons why people do or do not want electric light.

Wilber has this day submitted to me a draft of a notice to the Swan company and to the Maxim company. He includes in the notice all of our leading patents on lamp, dynamo, fixtures, system &c. I have directed him to take it to Mr Betts this afternoon and after Betts goes over it I will then pass judgment on it myself. Thus I hope to get the notice out in a day or two.

Anderson told us this morning that the insurance people had ordered the Maxim lamps out of Starr's jewelry store again. He says he will not allow them to burn in any other buildings in New York until they make their system as safe as ours. He says that the Maxim Illuminating Company of New York is quarrelling with the parent company. He thinks the true inwardness is that Weston has in incandescent lamp and that he is trying to disgust the United States people with the Maxim lamp so that they will take up his lamp. He further says that the Illuminating Co.

is not honestly managed, that the President is not truthful and clear. He further says that the Illuminating Co. blames the parent Co. for not giving them a system, which will pass the insurance people's inspection. Anderson says the truth is the parent company has no system. He seemed to think that the Maxim people and the Maxim lamp were in a bad way and that unless they do something very brilliant very soon the Maxim lamp interest would go to pieces.

Regarding that long interview between Stockley and me, I would like to talk it over fully with you and Mr Lowrey. To that end we will go out to see you, unless you are going to be in here within the next four or five days.

I have the next number of the Bulletin in press and hope to get it out in two or three days. It will have a tendency to make our stockholders feel good and it will indicate substantial progress everywhere. In fact, I do not think any Bulletin will compare with it in the evidence given of steady progress.

Recd 6 June 1892 (June 2, 1892)

Friday, June 2nd. 1892. 2, P.M. Your note of June 1st. at hand. I enclose copy of the Stager contract as you request. You see it is only a preliminary memo. The regular contract has yet to be made. His company have got their letter head printed and I enclose a sample of it. You see your name heads the list of Directors:

Regarding the Danforth plant, the man that Vail sent has not yet reported what the trouble, so we are still in the dark.

Moore got back from Phila. this morning. He says they started up our engine without any load and it ran away with itself. In order to bring down its speed, no load being on, they tightened the belts, That made it hard for the engine afterwards to make speed when the load was on. He further says that they ran 74 lamps which was too many and heated the armature. He is going to send them another armature. They gave him an order for one 250 light machine, and, pending its construction, we are to rig them up temporarily an additional sixty light dynamo. Moore says Childs has spent \$500 in ornamenting the surroundings of the dynamo. They have a black walnut cover over the magnets and have the dynamo and engine mounted on a brass floor with silver studded nails and surmounted by brass rails which cost \$250. There is also a silver plate on our dynamo and a good deal of yellow paint. He is making a great pet of it. Moore says the printers would not give it up under any circumstances.

Greenfield's weekly pay roll keeps getting shorter. This week there are only ten on it. Their weekly pay aggregates \$133.

Please ask Mr. Insull to write Gouraud for an exactment

statement about the Cape of Good Hope and about the Norway and Sweden plants, so that I can get an exact statement for the Bulletin about them.

I have just received from Puskas & Bailey another letter dated May 19th. I send it herewith, also pinned to it their letter of May 17th. also their telegram of May 29th. It is marked 2, A.

Bliss writes that the Chicago people talk of making him Gen. Supt. and of making Mr Johnston engineer. The Directors of the company will divide their stock with such men as Marshall field and Pullman and others.

Bliss writes me a long letter about the embarrassed position in which he finds himself, after Moore's visit. I quote one sentence from his letter:

"Such a bomb shell as Mr Moore threw into the camp
 "if generally known among the stockholders would be disastrous.
 "I regard it as unfortunate that Gen. Stager and Mr Moore should
 "be obliged to use such strong language and hope that out of the
 "misunderstanding harmony may yet be secured."

The Montreal Lamp Company run off 53 lamps last week. They had several interruptions during the week consequently the output was less than usual.

I
 In a letter of May 26th. to me, Mr. Borden states that Mr Hoffman who is interested in the Fall River Illuminating Co. says that he (Hoffman) saw on Wednesday of last week a letter dated Cleveland on the Brush Cos. ^{paper} calling attention to a draft on N. Y. for \$150,000 to pay for stock in the American Swan Light Co. with directions to place the same in prescribed proportions in names of Stockley, Leggett & Brush individually.

Hoffman also says that the agents of the Brush Co. have been notified that they would shortly be supplied with Swan lamps and secondary batteries with which to fill orders for internal lighting.

Bad news travels. Hoskin writes from Phila. that the Fire Patrol in that city has been instructed by Mr Anderson of the New York Board of Fire Underwriters to carefully look after all our safety-catches, because they are sometimes faulty. That comes from what happened down cellar that afternoon.

The Gramme Co. sends us a long list of the patents of the Excelsior Company. Possibly you may care to look it over. Please return it. It is marked E. B. The Excelsior company is knocking at the door of the Gramme Co. for admission and this statement of what they have is submitted in orders that the members of the Gramme Co. whether they want the Excelsior Co. in or not.

An electric light company has been formed in Taunton, Mass. They do not desire to make any contract but wish to buy what they want. They are buying some arc lights from Arnoux & Hochausen. They wish to buy one 250 light machine from us to light a block of stores. If we sell, it will treating the matter as isolated business. Probably it would result in the Taunton company adopting our system, but they would insist at least for the present in selling an arc light where a customer insisted on having it. Possibly the Taunton Co. would increase their capital stock and give us an interest in the company. Probably too our sale to them of a 250 light machine would tend somewhat to prevent the future formation of an illuminating company in Taunton exclusively for the Edison system. It presents rather a mixed case but one which will come up often now that the Swan-

Brush company are in operation.

The Stager contract which I send you is only a proof and is not yet in final shape. It will however probably answer your purpose for the present. You need not trouble yourself to return it.

Some time ago Mr ~~Ernst~~ Ernesto Fabbri wanted us to try to sell one of our isolated plants to a school in Concord where his boy is. Munroe has been working the matter up. He has just received a letter from the school which rather amuses me. It is as follows,

St. Pauls School, Concord, N. H.

May 30th. 1882.

W. W. Munroe, Esq.

Dear Sir:-

Your communications ~~have been received~~ are received and you have my thanks.

Will you oblige me further by furnishing statements of oculists of note, and of Boards of Health, respecting the effect of light upon the eyes of those using it.

Yours truly,

W. H. Bates, Curator.

Moore wrote to the Arlington Mills for a certificate of good behavior touching our plant. The reply on the whole is satisfactory, although cautious. I enclose their reply. You need not take the trouble to return it.

Regarding your note of Wednesday about engines, your first engine went to Thurber. The next engine we had went to the Queen. It would not have suited you as it was planned and it was

specially made for a steamer. Then came another engine which went to South America. That had a special feature in it, namely, a fly wheel, and you would not have wanted that. Moore says there is an engine for you due here to day. Now as regards your requirements for an engine at Menlo Park, the next engine we can gobble up we propose to put in this building. Our plant is running wretchedly. The engine is all worn out. Last night we just escaped having our lights go out in the presence of important people from out of town. Will you postpone your wants until after we get an engine for this building? What is your decision?

If you consent to our taking the first engine that can be spared to put in here it will be impossible to give you an engine until July. Arlington & Sims inform us that they are still hard up for money and that they cannot increase their output for a month or two yet.

Oglesby is going off on the Bennett yacht for three months to take care of our plant. Bennet is to pay his fare back, also give him his uniform, also pay him fifty dollars a month.

Dyer writes from Washington that the Commissioner probably means to decide the Sawyer-Man case himself, and that there will therefore be some delay.

Last night I was very busy. First Mr Ernesto Fabbri was here with Mr Nunas? from Chili. ~~After~~ The latter wants to visit you. After him Mr Flagler called and was quite a stranger. He says he felt discouraged about his light at Mc. Kessport, but that since we took the job out of Stern's hands and sent a good man to fix it up it has run splendidly. After him Munroe appeared

from Boston with the proprietor of a big hotel there, the Vendome, in Boston. I spent until after ten trying to capture an order from him for his big hotel dining room. I trust I succeeded but do not know.

The big dynamo in Morgan's house will be started tomorrow night. The big engine is already set up. The small engine and the small dynamos are yet to be put in.

Bennett's yacht is still in dry dock. So Moore says.

It will be July before we get the Herald Building lighted up. The iron plate for the bottom of the ~~ix~~ stack has been lost in transportation between Elizabethport and New York and that is creating some delay.

Goff has turned over to Hazrd the letters from Fox and other people in the American Co. to himself. In one letter Fox tells Goff with great delight that the American Co. is making great progress as is shown by the fact that ~~xxx~~ one of Edison's best men has just left him and gone to work for the American Co.

Borden wants all New England. I have sifted the matter through and have made up my mind that Borden cannot give it any personal attention being too busy with his bleachery. Consequently it would seem as though we gave Mr Paine all New England. I therefore declined to do it. But I have told Moore to tell Borden that we will keep Munroe and his agents out of Maine and will let Paine work up that State on the Fall River basis of division of profits.

The New York Steam Heating Co. have been playing havoc with the streets down town and may have hurt our wires. Clarke is looking into it.

Barker has just called and says insurance people in Phila. ordered all the Edison safety-catches out of the Ledger building. They had been informed from New York that they had been dangerous. Hoskin fixed it up with them.

Moore has let David go in Columbus. David's agency has cost us over \$2,000 in cash and he has not sold one plant.

Moore says nobody liked him out there. The plant in the State Journal Office has been offered to them at about cost and if they do not buy it we shall take it out. We shall probably move David's office to Cincinnati and may possibly send another agent there.

Moore says his trouble in Chicago arose from the fact that the new Chicago company was gobbling up Bliss and his employees on the business of the Isolated Company. Moore wants the Isolated Company to retain its territory in those three states. Stager told Moore that Lowrey told him the Chicago company should have all of those three states both from the Light Co. and the Isolated Co. Moore said he had never consented to that and he and Stager quarrelled. Undoubtedly the Chicago company must have those three states and a contract has yet to be made between the Isolated company and the Chicago company for the same. It was outlined when Stager was here. Moore will have to yield on that point. Just what the terms will be there may be some ground for discussion, but the fact of the cession of the territory is now a foregone conclusion. Moore must yield on that.

To show you how we have systematized the business of soliciting orders I send you W. H. Moore's report for last week marked Z.D. Hastings makes memoranda from these reports and watches and follows them up. They are very interesting reading.

I also send Card's report marked 2, E^t which please return. I will not inflict such matters of detail on you very often, but I like to do it now and then just to show you exactly what is going on:

The Ex. Com. of the Chicago company consists of Stager, Williams, Clark, Doane and Seeberger. I know them all. Four of them are exceedingly wide awake, pushing men.

The question of moving the Supply Dept. I am disposing of. I guess we will move it down to one of the buildings on Pearl St.

Here is a bill seriously affecting patent interests which is now pending before the Senate Committee on patents having passed the House. This is one of the matters I propose to have the Gramme Company take hold of. *Please return. It is mar-*

H. L. P.

Monday, June 5th. 1882. Regarding Brazilian patents.

I hand you an English translation of a newspaper article from Brazil, which Messrs John Moore & Co. apparently endorse. It is an exceedingly intelligent presentation of the case. Evidently the writer thinks there is a little prospect of either ourselves or the Brush Company getting any protection for patents. The logic of the article, viewed from a business stand point, is in favor of our giving up any hope of protection for our patents and of our at once pushing our business in Brazil, patents or no patents. I dislike to trouble you to read so long an article, but the matter is stated so intelligently, I think it will pay you to read it. It is marked 5. A. Please return it.

Mr Arnoux, who continually evinces a strong desire to be a warm friend of ours, has been in to tell me that he has just received a letter from a friend in London. He says his friend writes that the Edison people are having a good deal of trouble with the Edison machines there on account of heating. Whether this is so or not I do not know. Certainly nothing of the kind has been mentioned in the letters that I have seen. Arnoux says he has a patent for throwing a spray of water over an armature when in motion and that the patent is three or four years old. He says he has now in his shop one of his machines which Zinn & Messer, Centre St. N. Y. City, have been running four years at an expense of less than a dollar and that the bearings are now worn out and he is repairing it. On that machine he has used a water spray all the time. He states that Messrs Charles Craske & Co. Electrotypers, Rose St., N. Y. have one of his machines and that at his request they keep it short circuited immediately in rear of the bath. He says it has run in that way

three months day and night and that it is impossible to get a short circuit which will heat the armature, owing to the efficiency of the water spray as a ~~water~~ cooler. He says his machines are the Siemens machines, that they are built like ours, that the water does not rust the machine, and that the machine cannot be made to heat although it may be short circuited in the worst possible manner.

Arnoux wants us to adopt his water spray and he says he will make very liberal arrangements with us. He will take us round and show us the invention in operation at a number of places, where it has been working for years, if we wish to look into it. Do you think it worth while for me to have Clarke or some one else look into the matter?

I think the N. Y. Ill. Co. ought to have some 32 candle lamps, also some 100 candle. I have written Upton for prices for the latter. Do you not think we ought to order some so as to have them in stock for the first district?

Friday night I inspected the Faure battery down cellar. There are 40 cells, and the man in charge says they weigh 2 tons. The space taken up by the cells, also their weight is appalling.

Moses has had a talk with us about the contract with him. I told him we could not give him more than a quarter. I also conceived the idea of letting some outside party, possibly Mr. Lowrey, as Trustee, take title to Moses' inventions for say four months, our Company to pay the expenses. At the end of the four months my idea is that you shall say whether we had better continue the arrangement with Moses or not.

Enclosed is a letter from Norman Williams. So far as

I know we have no statistics as to the working of gas engines, except that they will not work. Has the experiment of Brush and Draper, namely, using a battery to iron the waves out of the current proved satisfactory? If so perhaps we could use a gas engine. Please return Williams' letter. It is marked 5, B.

Mr Wilson gave us an order to put a 250 light plant in a new hotel in St Paul. - But we found we could not get an engine for them before August. That will not be in time so they have telegraphed this morning countermanding the order for the plant. I fear this is an indication of the way our business will work all through next Autumn. We shall not be able to get some engines to enable us to fill our orders. Moore is going on to Providence in a day or two to debate this point. In connection with the above we must all bear in mind that at an early day we should organize a large company for manufacturing with an abundance of capital. Next Autumn we shall not only be unable to get engines but also dynamos and motors. But I suppose our people will not be willing to embark in ~~an~~ such a manufacturing enterprise until after our first station is started in New York.

I have order Pike to move out of Goerck St. and to take his supplies to No. 255 Pearl St., top floor.

Here are some ~~xx~~ newspaper extracts from recent London ~~xxxxxxx~~ newspapers which have been sent to me from London. They show nothing except the great speculation now going on in London over electric light shares, especially the Brush shares. You need not return them.

Your telegram saying that you must have an engine is just received. I suppose you refer to the engine for London. I telegraphed you in reply that the engine reached New York this

morning. I learn from Goerck St. that they have received notice of its arrival here and that they will take charge of shipping it under Mr Insull's directions.

The 40 cells of Faure batteries are now charged down stairs. The man says that 50 cells would give ^{at} 100₀ volt current to the amount of 300 amperes for one hour, which is equivalent to 400 lamps of 16 candles each for one hour. That is to say, 50 cells would light 400 of our lamps one hour, but the economy ^{used} ~~xxxxxxx~~, namely, 10 outside to one less of the battery would be a little less, viz. 30 lamps 12 hours. They used our dynamo ten and three quarter hours on Saturday to charge these 40 cells. These batteries fail to make much impression on me. Certainly they cannot compete with our conductors where houses are near together. But they may have a use as a luxury for distant points like a residence located at a long distance from the dynamo.

The Bulletin will be out this evening or tomorrow morning.

I enclose a personal letter to me from Norman Williams which please return it is marked 5, C.

I want you to read it because Stager will grumble a good deal when he arrives here and possibly will grumble to you personally. SSo I want you to see all the literature on the subject.

Mr Littell called to day and told me you told him possibly our company would hire him to act in the country and start companies. In a short time we shall need such a man, but Mr Littell did not impress me as quite solid enough for our purpose. I think our Directors will object to hiring such a man until after our New York central station is started.

Meantime we should be on the lookout for a good man and possibly get him here to be instructed. This is one of the matters I wish to talk over with you personally. I told Mr Littell that I would confer with you about giving him a position of that sort.

I notice in the number of the Electrician of May 20th. that Swan states that 200 pounds of coal would give 20,000 candles of light, incandescent lamps, an hour. How is it that he can stand up before the public at a meeting of the Royal Institute of British Architects and make a statement like that.

In the same paper I see an article on page 19 which refers to "Mr Jehl's Current Meter."

The foreign papers are full of electric light stocks and the excitement connected with it. This seems to apply especially to Brush.

You will see that the defect report this week has only one item and it is hardly worth while to send it out, but I guess I will do so just to keep the ball rolling.

In Havana they run our lamps at 20 candles, consequently they have not steam poor enough and have been obliged to get more.

The American Steam Heating Co. still annoy us. I have told Goddard to write them a sharp letter and threaten them with an injunction if they do not stop. We have a man in the first district who does nothing else but watch the taking up of the streets by other people and protect our rights. But this company seems utterly regardless. I am afraid we shall have to threaten them with an injunction and possibly serve them with one.

Tuesday, June 6th. 1882. 12 A. M. Who is John D.

940
Muller of New York? In the last Gazette a patent was allowed him (No. 258795) for a glass globe for electric lights. The inner surface is smooth and the outer surface formed entirely of ~~an~~ abutting pyramidal projections. Do we want to buy it or make an arrangement to use it?

I see that the Electrician of May 27th. (page 25) says that the meter is not Mr Jehl's but Mr Edison's but that Mr Jehl carried out the experiments perfecting the details of construction.

Regarding the notice against the Swan light issued in England by the attorneys of the Edison light and the rejoinder by the Swan light people my own judgment is that unless as matter of law it was unnecessary to publish such a manifesto, the publication was mistake. When two reputable men dispute in public and one says it is and the other says it is not, the net result is simply confusion in the minds of the public, and neither man has gained anything nor has either lost.

The way Preece gets round his statement that the electric light cannot be subdivided is pretty thin. See his letter to the Times, a copy of which I have, reference to which is also made on page 27 of the Electrician of May 27th.

That electric railway is also described in the Electrician, the one which has a tender of Faure accumulators.

10/18/82
I notice that the Electrical Review reprints verbatim my description in the Seventh Bulletin of our first district in this city. It was copied from the Bulletin in the Telegraph Review of this city and has been copied from that. I frequently notice items from the Bulletin copied in other papers but more

especially in the English papers. Our own journals do not pay much attention to our enterprises at present.

Borden's wealthy Israelite friend in New York, Hoffman, has applied through Borden for the privilege to buy from our parent company licenses for cities and towns with the intention of reselling them at a profit. He proposes to buy them from us as cheap as he can, and to divide the profit between himself and Borden. Hoffman says some of his friends have done that and are still doing it in this country with the Brush Cos licenses and that they are making a good deal of money out of it. My judgment is that we ought not to allow anything of the kind. No doubt that way of doing things would give us immediate cash and would also result in the formation of a good many local companies without delay, but ultimately there would be dissatisfaction. We ought to let the local companies get the licenses as cheaply as possible, so as not to burden them with any additional charge beyond what we ourselves get for the license. We may possibly allow a small commission in some cases, as we do with the Chicago company when they form subordinate companies, but we cannot afford to let the Chicago company or Mr Hoffman or anybody else squeeze as much as he can out of the local companies. I think the Brush company do wrong in permitting their business to be developed in that way and I do not think we ought to do so. Do these views coincide with yours?

In this connection I hand you a lengthy bid for subscriptions to the Brush and Lane-Fox Co. It is in the London Globe of May 19th. Please return the same to me. It is marked G. A.

At the meeting of the Ex. Com. to day I am going to bring

up the question of at once fixing terms for granting licenses. We can form companies immediately in Toledo, Baltimore, Lowell, Haverhill and other places if we could only fix the terms and announce them at once. Possibly our Board may wish to defer doing so until after our down station is started. I will bring the matter up however and let the Directors decide it, namely, when we should announce what our terms are to certain given localities and also what the terms thus to be announced shall be.

The adjourned meeting of the Gramme Co. is on Thursday at 2 o'clock. If we are going to do anything about the Brush matter, referred to in my lengthy memo. of my interview with Mr Stockley, it must be determined on before Thursday. I shall bring that up also at the meeting this day. I believe Mr Lowrey has your views on the subject but if he has not I shall have the matter adjourned until I have a chance to get your views.

Wilber is now going to take out 23 Edison patents, one Holzer patent and one Motte patent. He says he has been instructed by Mr Dyer that the foreign patents are all right and that he can take these out.

When there is a globe in it gives
about 200 candles in all
directions of 260 ft. in
radius of British light
at Cleveland, Ohio
1881.

Mr Bancroft, Mr Munroe's assistant, has just visited the Merrimac plant and says it runs well. He has also visited the Pemberton Mills. He says they run their lamps at less than 16 candle power but that they seem satisfied with the quantity of light they get.

Mr Shaw comes to me to express his regret that the fact is being talked about among our people that he did not pay Mr Hughes's expenses. Shaw says he paid the hotel bills but did not pay the railway fare. I think he is justified in believing that from what I told him our Company would pay the expenses of Mr Hughes. My idea was that in starting a new thing like the electric railway, we would be willing to pay the travelling expenses of our own men if the other people would pay their own travelling expenses. Shaw says I told him so, and I dare say I did. But he says he would have paid his railroad fare anyway, notwithstanding what I may have said to him, if he had thought of it. Mr Shaw regrets that the matter is making talk among our people. I told him it was too small a matter to worry himself about. But he seemed to think the talk had reached your ears and he asked me as a personal favor to explain the matter to you. Mine, ilise laurimae. *J. N. Dyer*

In your memo. to me of June 6th. you state that you enclose a letter addressed to you by R. N. Dyer on the subject of Wilber's notes on the arc and incandescent lights jointly. Many thanks for the same.

Regarding the lighting of a building for Anderson, it is important to do it, if it can be done with absolute success.

Anderson has reminded me of your promise to do it. He says

some of the Committee are sceptical about the safety of our system.

Besides that, the fiasco that afternoon in our basement in his presence has hurt us in the estimation of himself and others.

I have already told you that that unfortunate event was used against us in Phila. I think it important for you to keep your promise to Anderson and I think it can be done without putting you to much trouble. Suppose you let me send Greenfield out with 'one of' his best men to do the necessary wiring and thus relieve you from much trouble? Please reply.

I notice your statement of June 8th. that you will have a list prepared of the things to be taken away from Newto Park that belong to the Light Company. I await that List.

Regarding engines Moore has gone to Providence this day. Nous verrons.

Regarding the bill on patent rights now before the Senate Committee, Hazard writes me this morning that the bill has probably been killed in the Senate Committee. I am glad to hear it. It had alarmed a great deal and I have been organizing in my mind a formidable demonstration to be made against the bill. But Hazard says it is now dead.

Painter's note to you that he will stick to the question of Barker's report on the Mint until he gets a copy of the report is gladly read. I hope he will. But it will be like those 'Maxim' people to pigeon hole that report.

My regular reports show that Japan Moore is on the line of the New York Central Road or Western part of the State. Card is knocking about in this neighborhood. Bancroft is in Western Massachusetts. At Goerck St. Lieb is working on resistance for central station, and Burnett and Perry on resistance of zinc

Can see
 Lamp factory
 Clark
 Life
 hand
 after
 asked
 had

will send the stuff
 & best with it

plates, and Gower also experimenting on zinc solution, Mc. Question on dynamos and cleaning instruments and Andrews on testing dynamos, also working on C. dynamos. I have told Clarke he can get a good assistant for Andrews so that the time of Andrews can be put on more important matter. He is a good man.

Yesterday and on the preceding night two intersections were laid in the Pearl St. district leaving 14 still to be laid. There were also 4 bridges laid in Beekman St. between Nassau & William. There are about 57 safety-catch boxes already inserted and about 14 or 15 more to be put in. There are also about 26 bridges yet to be put in. The mains are all alid except those for the intersections and bridges on the north side of Fulton and the westerly side of South (This is along by Fulton Market now being rebuilt); there are some feet of feeders yet to be laid near intersection boxes. The house connection business goes on very slowly and requires much time and labor. The street conductors will probably all be laid in two weeks.

Borden expresses his decided preference for safety catch No. 185. He thinks 186 is a nuisance. He speaks especially for mill work. He says the curved slots are difficult to get heavy wire in and out of. He thinks that No. 185 saves a lot of work in putting them up as compared with 186.

I notice that in the prospectus of the Manchester, England, Company they except patents for the purpose of locomotion on railways or tramways or on common roads only, also lighting ships or railway trains. We have thought of all these things and have at proper times excepted them, with the exception of common roads. We have never thought about electricity

for locomotion on common roads.

The Hathaway Electric light and Power Company was incorporated here May 31st. with a capital of \$10,000,000. The incorporators are strangers to me.

The Brush-Swan Electric Light Company of New England was incorporated here May 23rd. with \$2,000,000 capital. Among the Directors are G. W. Stockley.

The Electrical Storage and Power Company was incorporated June 3rd. 1882. The incorporators are J. P. de Navarro, Fausto Mora, C. C. Leary, James Glyne and Charles E. Buell. They cover the storing of electricity; also manufacturing apparatus for light, power and telegraph, also apparatus for compressing air and conveying compressed air. Capital stock \$100,000.

The Light and Force Company was incorporated May 20th. 1882. This is the Faure Co. It covers all North America including Central America. The incorporators are Philippart, Dekker and Whiting.

Last night the Isolated Company had in bank \$19,800, the Light Company \$532 and the Ill. Co. had nothing and the account was \$8,918 overdrawn.

Friday, June 9th. 1882. 12, A. M. Ladd writes me complaining of the inequality of the price for machinee. He says that Col. Logan was told by Johnson in London that the latter was getting as the price for a 200 light machine \$1000, delivered in London after paying cost of transportation. Is it not a fact that the London Company pays precisely for dynamos what we pay? Please reply. *Same price*

The notice to the Swan company and the Maxim company to be served upon them by our company is now in print. I propose to have Goddard sign it in the name of the Company as Secty. in his own handwriting and I shall then make formal and certain services on the Swan, Maxim and American companies. Enclosed I hand you a copy of the notice for your files.

Bailey sends me a copy of a resolution of the Directors of the Continental Co. appointing him and Rau Ex. officers of their company. The resolution confers upon these two men absolute power to do everything. Evidently Bailey has made up his mind to devote himself exclusively to the service of the Continental company.

Do you think this of sufficient importance to make an item of? If so what do you suggest for me to say? It is marked C. J.

Your telegram about your cablegram from Bailey about the German power is received. For an entire week I have been doing my best trying to get a meeting of the European company. I have either written or telegraphed Banker at Irvington about every day. Finally I got a dispatch from him yesterday saying he would be in the city to day, and I have accordingly called a meeting for one o'clock. It is difficult to make anything out of this German contract or to understand it intelligently enough,

to express an opinion. If we do anything at all, it will be about what we did in the case of the other contract, the Italian, namely, will leave the matter substantially to Batchelor and Bailey and the European Company over there.

The German contract for central stations provides that 2,000,000 marks (\$500,000) shall be furnished in Germany to exploit central station lighting. I judge that the money may be used for introducing model central stations. When these stations are subsequently bought by local companies, the loss, if any, is nearly all borne by the Paris company, that is the Paris company bears 80 per cent of it and the German Co. 20. The German company may itself go into the business of lighting by means of central stations and in that case they give the Paris company 15 per cent and the Paris company pays the German Company no commission. The German Co. may also get up local companies, composed of strangers and not of themselves, to light by central station lighting and in such cases the Paris Co. receives 15 per cent, but whether in that case they pay the German company a commission of 20 per cent on that 15 per cent, that is to say, one fifth of it, I am not certain. My impression is that they do. On this point the contract itself and a letter which Bailey has written are in direct conflict. All lamps used for central station lighting pay a royalty of 50 centimes and of this amount the Paris Co. pays one fifth (10 centimes) to the German Co. as a Commission. This royalty was originally one franc but it has now been reduced one half. As regards machinery, the German Co. can buy it of the German Edison Mfg. Co., or they can get it from Paris at actual cost in case of experimental stations. In

ne event is the Manfg. Co. to charge a profit (I suppose it refers to both French and German) greater than 30 per cent. There is no provision for any cash payment at once to the Paris Co.

There is another contract for what they call a "Studying Society", whatever that is. Whereas the central station contract covers all Germany, together with Alsace and Lorraine, the Studying Society relates only to Germany and not to Alsace and Lorraine. The capital of this Society of 225, 000 marks of which the Paris Co. furnishes one third. Both the Paris Isolated Co. and the German Isolated Co. can sell isolated plants everywhere in Germany, jointly, except in Berlin. The Studying Society has the option until the end of this year to form a manufacturing company in Germany. If that company is formed it takes at appraised value whatever the Studying Society has done. If it is not formed the Studying Society is to be wound up and proceeds divided among the owners. If that company is formed it then takes the isolated business out of the hands of the Studying Society. If the Mnf. Co. is formed its capital is to be 2,000,000 marks of which the Paris company (I am not sure which company) receives one quarter. In the case of the German central station company the Paris Co. has no actual member of the Board of Directors, although it has a talking member who cannot vote. But in the case of the proposed Mnf. Co. the Paris Co. can appoint two members. There is no provision for any money being paid the Paris company but on the contrary the Paris Co. itself advances one third of the cash capital to help the German start this Studying Society and is obliged to pay that amount in money right away into the National Bank of Germany at Berlin. This

Studying Society is an ordinary co-partnership and not a corporation. Messrs Tathenau and Moehring are to be the managers of the Studying Society. A third Director shall be appointed from Southern Germany and a fourth from Northern Germany and a fifth from Paris. Thus it appears the Paris Company furnishes one third the money and gets a one fifth voice in the deliberations.

The electric railroad patents are not embraced in any of these German contracts. But on the contrary they were embraced in the Italian contract. But it looks as if the manufacturing of what Bailey calls "apparati" for electric railways was given to the proposed German Manfg. Co., should it be organized by December 31st. 1882.

The Paris Co. continues to pay the annual tax of the Edison patents in Germany.

In all these companies there is a provision that if the capital stock is increased the Paris Co. shall get its share of the stock. There are also provisions for what are called interest shares, whatever they are, and the Continental Co. gets 25 per cent of those.

In the case of the German Manfg. Co. the Continental Co. can appoint two of the five Directors.

There is a provision that all differences shall be referred to five arbitrators, the Berlin Board of Trade to appoint the umpire.

You will remember that in our original contract between our New York European Co. and the Paris companies we were to have 50 per cent in the Manfg. Co. and 60 per cent in the Isolated Co. founder's shares. In view of that fact a difficulty arose in Germany when the consolidated the Manfg. and Isolated business.

Bailey writes as follows on that subject "the amount coming to
"the Light Company of New York not is agreed at not less than 56
"per cent and not more than 61 per cent, the exact amount to be
"left to arbitrage," if necessary." But there is nothing in
any of the contracts to show what Bailey thus sets forth.

Bailey writes that the Continental Company will "cause
"a friendly suit to be brought against us in Germany alleging
"that we have no right to use the incandescent lamp, for the pur-
"pose of getting an adjudication on the patents before embarking
"the larger capital provided for." He says if we are beaten in
that suit we will be no worse off than we are now, inasmuch as the
other incandescent people are now doing business. It looks to
me as if this provision made it for the interest of the German
company, to have us beaten on our patents. If we are beaten they
will not be obliged to put up the large sum of money, out of
which they are to make payments to the Continental company. But
they could put in their own money and do their business without
molestation and without paying any royalties. They will be pre-
pared to do this having been taught to do it by the Studying Ex-
Society, one third of the money for that Society having been fur-
nished by the Continental Co. In other words the Continental
Co. pays one third of the expenses of teaching the German people
the Edison system so that after the German people beat Edison on
his patents they will know how to carry on the business without
paying tribute of royalty to anybody.

Saturday, June 10th. 1882. 3, P. M. The Gramme

meeting took place yesterday. Stockley took the ground that his company had absolutely no control over subordinate Brush companies except that they were obliged to buy whatever apparatus the parent Brush company manufactured. I asked him to show his contracts with the various sub-companies throughout the United States to the counsel of the Gramme Company to see if that was so. I also claimed that in good faith he and the other officers of the Brush company should resign from the Board of Directors of the parent Swan company and the subordinate Swan companies. I also said that if the Brush company had made contracts with all its local companies which gave it no control over it, it was not fair that the Gramme company should compel us to control our local companies, when occasion might arise, simply because of the question of our local companies being so organized as to remain under our control. The Brush company as a company will vote in favor of the Gramme company attacking Swan but that amounts to nothing because Brush holds no patents which Swan infringes. The whole matter was referred to a committee of Stockley, Curtis, Chandler and myself.

I propose to use that committee to find out whether the United States company would help Swan if we sued Swan. I would like to get a resolution through the committee which would prevent the United States company from doing that, namely, to prevent a member of the Gramme company from assisting an outside company in any litigation brought against it by the Gramme Co. or any member thereof.

But in all these ~~same~~ things I must remember that precedents when once established are bad things. They sometimes

out both ways.

Hoyt tells me that the President of the Brush Co. (Leggett) stated to him in the presence of several other men, in Mr. Alex. Taylor's office, that the Brush company had carefully examined the Swan patents and that they decided not to buy them because they were satisfied they infringed Edison and that Edison would probably wipe them out.

Stockley stated yesterday at the meeting that if I ~~xxxxxxx~~ crowded the Brush company too hard on this Swan matter, perhaps they would buy the Swan patents and end it.

My own judgment is that the Brush people will ultimately buy the Swan patents if we do not sue Swan or if we are beaten in the suit.

It seems that Stockley and his associated in the Brush Co. hold 1500 shares of stock in the parent Swan company in the United States.

Further advices from Washington yesterday showed that the bill substantially repealing the patent law would be likely to pass after all. Accordingly a committee was appointed by the Graine Co. consisting of Hazard, Hoyt and myself. I had that committee meet at my office this morning at 9,30 and also had Gordon present. Hazard leaves for Washington to night to confer with influential people there and the committee will hold another meeting Tuesday morning at my office. We are laying out a plan to strike as many Senators as possible through private channels. My final judgment was against a public hearing before the Committee, because I feared such a hearing would attract attention and get in the newspapers, and thus far the newspapers have not

noticed the matter. All the Western and Southern newspapers would be against us.

Advices from Washington are that the Western and Southern States and the heaviest railroad interests are all in favor of this bill substantially repealing the patent law.

The tone of the meeting of the Gramme Directors yesterday was very agreeable. Good feeling prevailed and hostile interests were discussed without any individual loss of temper.

Mott has been in to tell me that he declines to submit a statement in writing of what his inventions are. He says that he will tell you personally, verbally, but that Mr Insull and Mr Dyer saw the other paper I sent out to you and that he fears they will see the other one I now ask him to submit. He calls attention to the fact that in the Gazette of June 6th, three patents were allowed to Dyer and Insull, and Seeley and Hanington are also associated in part, and Mott says that he will not trust Insull and Dyer to look over such a confidential paper as a statement of unpatented inventions. The patents which Dyer got ~~xxxxxx~~ are 159054 invented by Seeley and assigned to Dyer and Insull. Also 159115 invented by Dyer and Seeley and assigned to Insull. Also 159235 invented by Seeley and assigned to Hanington and Dyer.

Insull and Dyer I have nothing to say about, as they are not in the employ of this company. But I have something to say about Hanington. I disapprove of a policy of allowing employees of the company to be associated in taking out patents in that way. I shall speak to Hanington about it.

Mott says he knows that one young man at Menlo Park (he refused to give me his name) that a patent was hurried in

nothing has been... All the... and...

Advised from Washington that the... and...

The... of the... and...

... very... good feeling... and...

... in writing... and...

... and the... I sent out to you...

... attention to the... of...

... and also associated in...

... of... and...

... Also 19015... and...

... I have nothing to say about...

... I disapprove of a policy of...

... I shall... about...

... that a... was...

In order to head off Mott. Mott says it was something which he was engaged on.

I can carry out either one of the following plans with Mott. First, let him confer with you personally without anybody else being present and he will tell you his whole story and will leave it to you to see what the Company ought to buy and what it is worth. He says he will trust you most willingly both as regards not giving him away to what he calls your young men and also as regards your generosity. That is one plan. The other plan is to have the whole matter submitted to Wilber and then let Wilber confer with you and then let the Company agree on a price if they can with Mott and if they cannot let it be left to a referee. That is to say with reference to such things as we went to buy. In this latter case Wilber would take out the patents and our Company would advance the money to do it. If you do not care to be bothered about the matter, this last way is probably the best one. What do you say?

I told Mott that I took the broad ground that any man in the employ of the Company in such a position as he occupied towards you could not take out any inventions on his own hook but that they all belonged to the Company. I think that position which I thus persist in taking makes Mott feel uneasy.

Mr Swinyard is here and we are deciding on the details of a Canadian company. Our present idea is in the line of getting up one company in Canada to do everything, namely, central station, isolated and Mnfg. As to whether Swinyard or Hearle should be our active man there or whether it should have a third party, we are now getting all the light we can. I have just arranged to send a man on a sort of secret mission to ascertain

arranged to send a man on a special mission to ascertain
 help to get now getting all the light we can. I have just
 enabled our executive man there or whether it should have a third
 station located and built. As to whether Switzerland or Mexico
 offering up one company in Canada so do everything, namely, control
 of a Canadian company. Our present idea is in the line of
 Mr. Reynolds is here and we are deciding on the details
 about it. I have written in taking notes that you must
 out there they all belonged to the company. I think that position
 towards you would not take out any inventions on his own book
 in the employ of the Company in such a position as he occupied
 I think that he took the road around that way man
 way as probably the best one. What do you say?
 If you do not care to be bothered about the matter, this last
 one the patents and our Company would advance the money to do it
 things as we want to buy. In this letter also I have told you
 to be lots to a return. That is to say this reference to what
 upon on a price if they had with Holt and the Company for
 and then let Walter confer with you and then let the Company
 The other plan is to have the whole matter submitted to Walter
 you and also in regards your invention. That is our plan.
 both an attempt not giving him any to that he calls your young
 and what it is worth. He says he will trust you most willingly
 and will give it to you to see what the Company ought to buy
 body else being present and he will tell you his whole story
 here. First let him confer with you personally without any-
 I can easily see either one of the following plans with
 the only one.

204
 1912
 12/12

just who is the strongest man in Canada everything considered
to get up our company there and take charge of it.

I guess I have a good man to go to Havana for Navarro.
The only trouble is the man is afraid to go down there this season
of the year.

I am a good deal surprised to learn to day accidentally
that you have an Arlington & S. engine at Menlo Park. I am sorry
you did not tell me as I have been stirring matters up somewhat
in order to accomodate you with an engine, pursuant to your re-
quest to me to that effect.

Moore will see you at Goerck St. to day and will tell
you the result of his visit to Arlington & Sims. Personally I
confess to a little hard feeling whenever I think of the way
Arlington & Sims treated us. Moore says he can get six small
engines this month besides three large ones for Chili and for
Chicago. Your big central station will not be done until the
middle or last of July.

Next week we have got to decide how large an order we
shall give to Goerck St. for 4 dynamos (125 light). Before the
order is given both Clarke and Moore wish to have my plan carried
out of a conference between ~~xxx~~ themselves, yourself and Dean.
They think it is important that you should be present. Can you
meet them here either Monday or Tuesday evening at 8 o'clock?
Please reply.

By the way, a number of matters I have asked your views
about I have received no answer regarding. Also several papers
I have sent you to be returned, have not been received back
by me.

Regarding my proposed statement in the Bulletin about the different ways of measuring the candle power of the arc and incandescent lamps, I hand you herewith Clarke's memo., which makes it look as though the less I said about the matter the better. Will you kindly give me your views? Please destroy Clarke's memo. after reading it.

Regarding the proposed meeting with Dean and others to talk over economical details, there are other matters requiring discussion besides the new 125 light machine.

The Pearl St. station has cost up to the first of June about \$290,000 and it will be completed inside of \$300,000. This includes only items strictly chargeable to the installation of the district. The underground plant, will cost a little over \$180,000 of which about two thirds is for Kruesi's conductors, including both mains and feeders, and the other third is for the expense of putting in conductors, boxes &c. &c.

The New York Tribune is going to publish a long account of each of the companies composing the Gramme organization. Whitelaw Reid has selected a man to do it. I saw the letter of instructions from Reid to this man. He spoke of several companies and among others of the Edison. What Reid said about the Edison Co. was that he understood that Mr Edison had abandoned the field as against gas because he found he could not compete with it in price. It is very astonishing that a man supposed to be as well posted as Reid ought to be should know so little of what is going on almost under his office windows. I shall furnish a full account of what we are doing, hoping it will be fairly written up by the Tribune people.

Mr Clarke just calls and makes an especial request for

Mr. Glavin has called and asked an expert to report for
written up by the Tribune people.
a full account of what we are doing, hoping it will be fairly
that is going on almost under his office windows. I shall further
be well posted as Reid ought to be should know so little of
with it is price. It is very reasonable that a man supposed to
the field as having had business he could not compare
Raymond, and that he understood that Mr. Wilson had indicated
plans and a long career of the Tribune. What Reid said about the
institutions from Reid to his man. He spoke of several con-
ditions Reid has indicated a way to do it. I am the factor of
of each of the companies comprising the Glavin organization.
The New York Tribune is busy so busy a job so busy
numbered of printing in conductors, boxes, etc. etc.
including both main and I judge, and the other side in for the
\$10,000 of which about two thirds is for Wilson's conductors,
the Tribune. The independent place, and even a little over
The Tribune only it was strictly made up to the satisfaction
about \$250,000 more it will be completed in the amount of \$300,000
The Tribune has been up to the amount of \$300,000
during the past few months, but not in the light of things
to be said to be economical details, there are other matters to
Regarding the proposed meeting with Glavin and others
Glavin's plan after reading it.

you to come in either Monday night or Tuesday night to attend the proposed conference about the manufacture of machines. The Isolated Company has given an order for twenty K, or 250 light machines. But Moore persists in having certain changes made. I think it is only fair that we should all meet and have Dean present and then see what real merit there is in Moore's criticisms.

Mr Lewis, Lawyer, is now in Wisconsin working up the antecedents of Freeman. He discovers that Geo. H. Bliss brought to Chicago in the fall of 1878, returning from a visit to Edison at Menlo Park, some drawings of the Edison lamp, and that these drawings were afterwards accessible to one or two of the Freeman family then in Chicago, and that these drawings are now missing. This does not ~~connect~~ connect Freeman directly, but it is a link. It is very doubtful whether Freeman did more than merely communicate an abstract idea of his incandescent lamp until after 1879. That is to say he did not show an actual lamp.

Stager has returned to Chicago from his fishing trip but is used up with a bad cold. I hope to have him here shortly to settle the question of the Isolated contract.

Monday, June 12th. 1882. 11, A. M. The Swan lamp begins to trouble us. This morning's mail brings a letter from Bliss saying that the Brush people in Chicago have announced that they will shortly be in the field to organize a company to introduce the Swan light to be used in conjunction with the Brush light and also with the Brush Storage Battery, and it requests people to make no contracts with the Edison company for isolated lighting and not to get up any companies to handle the Edison lamp, until the Brush - Swan apparatus is brought out which will be soon. Bliss says this is troubling him because people are induced to wait.

A letter from Hoskin, of Phila. states that he is meeting with the same trouble as Bliss. He says that he learns in canvassing for customers that the Brush people are proposing to exchange their arc system for the combined arc and incandescent system. He says that fact stopped a negotiation Saturday with a prospective customer.

Touching the above matters I told you in my last memo. the position which the Brush company takes. From that you will see that there is no course left for us but to fight. We must draw our sword, open the battle, and may the best cause win.

Wilber promised me that he would be back from Washington this morning. I wanted him to begin the preparation of a suit against Swan. But to my regret I find he is not here and his brother states he will not be here until tomorrow. Wilber has conducted himself on the whole quite satisfactorily since I took immediate charge of his office. This is the first thing that has occurred to displease me. But I will say no more about it until he comes tomorrow and I ascertain the facts as to why he did not appear to day. Possibly he is unavoidably detained.

Where shall the suit against Swan be brought? Shall we sue him in New York City, or in Boston? I do not know whether we could get service in New Jersey. But if we can shall we sue him there? Have you any choice in this matter. The most convenient place to bring the suit is probably in New York city, and it will then be tried here. We can sue in the United States Court or in any State court. I shall confer fully with Dickerson and Betts on this. I call on them for that purpose to day.

Dean writes me a letter approving of my suggestion to have a conference about changes in engines when new orders are given. He says it is a good idea. But he says it will be impossible for him to attend. Possibly he does not know that the conference is to be held in the evening. But if you come to attend such a conference either to night or tomorrow night, I really hope you will have Dean attend also. There certainly should be a possibility of getting the Supt. of the manfg. dept. to attend a conference of the engineers and leading officers, when questions of manufacturing, exclusively, are to be discussed. Let us not, however, condemn Dean for his decision not to be present until we are sure he will not come even to an evening conference.

A Boston syndicate forming the Boston Coal Co., Capital \$25,000,000, has been inspecting our plant in Columbus and our agent says they were highly pleased and that they say it is the only lamp they have seen which is adapted for all purposes.

The Opera House built at Lima, Ohio, a job which we expected to capture, is a case in point, also in this morning's mail, where the Brush Swan company and the storage battery is

going to hurt us. Mr Faurot, who owns the property at Lima, storage has been to Cleveland to investigate the storage system of the storage Brush light and the Swan light, and is much pleased with it. Faurot writes that he thinks he can rig himself out much cheaper with the Brush light and the Swan light with a storage battery than he can with our plant.

The Pemberton Co. Lawrence, Mass. have paid for their isolated plant, \$1,892, 35.

Regarding the order for the Hotel at St. Paul being countermanded, it seems that it is a summer hotel and is open only during July and August. Consequently they could not wait until August 1st. for the light. I think I told you that although we were ready to furnish everything else, we could not furnish an engine until that time. But it looks now as if this engine matter would be all right in a month or so. Still we have lost this order which is greatly to be regretted.

Have you any objection to our taking the flange away from the bottom of the Edison lamp? I refer to the broad plate flange which juts out between the brass screw and the glass lamp.

The South Carolina people write me that that far more favorable terms are being offered them by other companies than are offered by our Company and they ask us to lower our terms or their company will not adopt our system.

The South Carolina people also wish to know if we will give them a bond of indemnity covering contingent damages in the case of suits brought against us on other patents. My own judgment is that we had better not do it. I am willing to write them a letter telling them that we will stand between

them and damages, but personally I am unwilling to give a bond of indemnity. However, I shall submit the matter to our Board of Directors, as we must either get into South Carolina through this company or not get there for a long time to come.

I see that many of the wealthy cottagers on Bellvue Ave. Newport, have protested against the erection of poles on that avenue for the arc light.

Handwritten notes in cursive script, including the words "Lester" and "Lester".

Lester
June 13, 52

Tuesday, June 13th. 1882. 12, 30. What lawyer shall

take charge of our suit against Swan? In order to decide that

question I had a long interview with young Dickerson yesterday.

His father was absent. The Dickersons insist upon taking charge

of the suit or upon having nothing to do with it. They will not

consent to have Mr. Starrow in it but they will consent to have

Mr. Betts associate as counsel. The Dickersons do not care who

appears as attorney in the suit, but they insist upon taking all

the expert testimony and upon making the important arguments.

They will charge \$150 a day for taking the testimony.

They are solicited by other parties who wish to employ

them as their attorneys in incandescent lighting. If we wish

to keep them from going elsewhere, we must either give them prin-

ciple charge of the suit, or we must pay them nearly as large a

fee in consideration of which they will keep out of all incan-

descent suits.

I have not seen Betts yet. Before I call upon him

I think I will decide the question whether we will give the Di-

ckersons the general conduct of our case or not. Will you please

give me your views on this point?

Dickerson told me about the latest ignis-fatuus in

electric lighting. I had hoped to get through one week without

hearing another huge story about a new light. Quite the con-

trary, this is bigger than usual. The Daft Electric Light Co.

capital \$300,000, with an office at 98 Reade St., N. Y. City and

a laboratory at Greenville, N. J., can light every room in the

Fifth Ave. hotel for one dollar and a half a night and can light

a gentleman's residence for less than three dollars a year.

\$5000 a share has been offered for the stock, the par of which is

\$200. Daft's lamp is neither arc nor incandescent but is said to

be an operation of an electric current on a vapor enclosed in a globe looking like an egg shell. Daft was formerly with Siemens and began his experiments in those days. This lamp is said to have been running six months and will soon be put before the public. Take this story altogether it is the biggest yarn yet.

You remember Daft. He read a paper before a Society in which he falsified the plant in this house. Afterwards his false statement was made the basis of an editorial in the Sun, in favor of gas and against ~~skasixkixkix~~ electric lighting.

The result of Hazard's trip to Washington is to satisfy him that that Bill against patents will not pass. The other Bill, namely the one that makes special provision for damages under five dollars, will pass, and it will satisfy the non-patent element for this session. I hope this information is accurate and that Hazard is right.

Wilson writes from Albany (he is one of the isolated men), that Spencer Trask's dynamo at Albany he found in bad condition the commutator being badly burned up by sparking and not now being used. He sends a clipping from an article in an Albany newspaper which states that our light is to be put in the office of the Secretary of State.

The Fairbanks people up at St. Johnsbury will probably wire two residences and a store, because they wish the light in them as well as in their factory.

Borden writes that Storey is getting on finely with wiring the Wagsutta and that he will be through in another two weeks.

Borden writes that his lecture last Friday night went off well and that the experiments were perfect. He says he will now go ahead with his Fall River Co.

Brush had a patent for a secondary battery marked withdrawn in the last Gazette. I suppose the reason it is marked withdrawn is that just before the patent was taken out somebody was put in interference with it.

Paine writes from Mine that the Maxim people have not even yet completed their several months job of working a portion of the mill of the Worumbo Co. at Lisbon Falls. You remember the reason we got our order from that Co. was because they were satisfied the Maxim people did not understand their business, as shown by their slowness. But they still let the Maxim plant be put in.

I paid Borden the compliment of asking him to have his lecture taken down by a stenographer. I expect to get a copy of it in two or three days. I guess it was a pretty good lecture.

The Isolated Co. has \$17,500 in the bank. The Ill. Co. is \$18,600 overdrawn with Drexel, Morgan & Co. The parent company has \$ 540.

Stager's company in Chicago has begun to advertise. They put their advertisements in the Chicago dailies. They have appointed Bliss Gen. Supt. and Hohnstone engineer. The latter went out from here.

We are getting the final account of the down town district into shape. The total amount of cash actually received by Ill. Co. on account of subscriptions is \$544,960. The station will cost well on to \$300,000 including only the items strictly chargeable to it. The length of tubes -(Kruesi's conductors) is greater than I had supposed. It is 98,693 feet or 18 and sixty nine one hundredths of a mile. This is longer than we have ordinarily called it.

Enclosed please find letter from Puskins & Bailey

Enclosed please find letter from Puskas & Bailey this day received. Please return it. It is marked 13, A.

Wallerstein called last night. He is very hard on the French people for the way they do their business. He says all their methods of doing business are very slip shod as compared with ours. Much to my surprise, and contrary to his custom, he manifested considerable enthusiasm about our light.

Your memo. of June 12th. at hand. You say Insull will take up the European accounts as soon as he can. Please excuse my being so urgent in this matter, but Batchelor writes that the matter should be settled at once or we shall lose by it. Consequently I ~~amixing~~ venture to again beg to have your accounts made up without further delay.

You state that you did not receive any enclosures in my memo. of June 9th. Mc. Gowan put them in a separate envelope. Mc. Gowan says there has been some confusion arising from so many letters and documents to be filed, &c. being marked differently which necessitated his going over shorthand notes to see to whom they were to be sent. This is now obviated by having ~~mixing~~ an envelope specially addressed to you for enclosures as I hand them to him.

Enclosed please find a ~~xxxx~~ another copy of the notice we propose serving on the Swan, Maxim and American companies.

I notice what you say about employees holding patents. You draw the line between broad patents that cover principles and patents that cover only details. You say that you do not object to employees holding patents of the latter sort. I have not

spoken to Hanington preferring to wait for your views.

I enclose a statement of the business of the Isolated company brought down to the 1st. of June. Please return it. It is marked 13, B.

Shaw's proposition for electric railway in Fairmount Park was to have been acted on last Saturday by the Park Commrs. I have not heard the result.

Regarding the putting in of a ~~xxx21~~ plant in a small town using aerial conductors, I have notified the Spencer N. J. Co. to take the matter up and they have agreed to decide this week. If they do not do it we can find some one else.

You know we have a company in Toledo and another in Jackson, Mich., both of which have already secured the right of way. But those towns are too far away for the purpose of a first installation of a plant with conductors above ground.

Shaw is pressing me for terms in behalf of the railway company for his proposed railroad in Fairmount Park; also at Atlantic City, also from Long Branch to Seagirt. The patents belong to the Light Co and yourself. Kindly inform me what you think we should charge them for a license for those three initial plants. Shaw insists, and with some good reason, that our terms ought to be exceptionally low for these first orders, because there is the risk of uncertainty. What terms do you suggest.

My confidential agent to ascertain the financial standing and character of parties in Canada securing a license from us, left here from Montreal last night.

You request that I do not execute a contract with Moses until he has shown you drawings and shown you that he can do some

thing. The contract is of such a nature that I think we can safely execute it, provided we make the expense of his experiments subject to your approval. My contract will hold Moses at arm's length and keep him entirely out and away from our Company. Whatever he invents will be assigned to a trustee and all we do is advance the money for the patents and for the experiments. Both of those things I make subject to your approval from week to week. I also do not give Moses any interest in any other arc light matters which the Company may become possessed of. In a word the contract with him is of such a nature that we take no risk; we lose nothing, and I think we can safely make it. However I will not execute it before showing it to you.

I met Mr Edmunds, formerly with Swan, and now with Armington & Sims, yesterday. He says he is ready to make an arrangement with you for England touching the Armington & S. engine. The impression he made on me is that he would sell out his contract for the A. & S. engines for England if you would pay him a good profit. I told him it was something I had nothing to do with. The fact is I am still pretty sore over the way A. treated us and I do not like to talk about it.

Edmunds says that the Swan Co. in this country will not bring out any lamps for some time. Possibly they are going to wait until Brush brings out his storage battery and then they will bring them all out together. That would make quite a newspaper flurry. Meantime I am afraid we shall find trouble to get a good ground upon which to bring our suit for infringement. We have got to have an infringement before we can begin our suit.

Why not begin a suit against Maxim at the same time we sue Swan or even before that provided we can get an act of infringe-

Spencer Traske & Co. want to get up a company for Albany, Saratoga, Troy and Schenectady. So Insull temms me. My own judgment is that we had better get up a distinct company for each of the four pëaces. If they will do that I think we had better give them the same terms we gave Stager, thus closing a contract at oncë. My objection to giving them one license for the four cities is that sooner or later they will sell out the cities and thus become middle men thereby imposing an additional burden on the localities. To be sure this could be prevented by a contract. But is not the best way to make a distinct company for each city?

W. H. Moore is still soliciting orders on the line of the New York central. Last letter he was in the neighborhood of Rochester.

Bliss sends his weekly report for canvassing. It shows that he has nine customers on the string with a prospect of getting a good part of them. One plant is for a large printing ouse of 500 lights. Now that Bliss has become an officer in Stager's company he will have a good strong local backing and can better than ever.

Mr Bowrey asked Mr Edmunds yesterday how it was that the Swan people published that Swan got 10 lamps of 20 Candles per

H. P. Edmunds' reply was that it was a measurement under peculiar circumstances where there were a good many pulleys causing a good deal of friction between the engine and the dynamo. This answer seems to give Mr Edmunds entirely away on this point. I

suppose what he means is that they allowed enormously for the friction of the pulleys and that by means of the elasticity of such allowance they concluded that the Swan lamps if run under perfect conditions would give about 10 lamps per H. P.

you want a manual Johnson for information

GAS ENGINES. The Chicago people wish to know if there is any gas engine they could use in private houses to run a dynamo.

Mr Pike has now removed his supply dept. to No. 255 Pearl St. He will go to no expense whatever for fixtures for the present. He took down all the old shelving and moved it to the new place where he is putting up a part of it.

*1897
used
Saw
the
and
I
think
it
is
a
good
idea
to
use
a
gas
engine
for
the
present
at
least
until
we
can
get
a
manual
Johnson
engine
for
you
has
reached
him
Shall
we
enter
an
order
for
an
8
X
10
engine
for
Menlo
Park?*

You say in your memo. of June 12th. that you are using that London engine only temporarily and that you desire an 8 X 10 engine and wish it hurried up. Moore says no order for an 8 X 10 engine for you has reached him. Shall we enter an order for an 8 X 10 engine for Menlo Park?

Young Dickerson was making a good deal of fun to me of the present excitement about storage batteries. He thinks the old blue stobe battery is as good as anything. I notice that in all these things he quotes D' Infreville as an authority.

I hand you herewith a statement showing the disbursements of the E.I. Co. connected with the first district. It is brought down to May 31st. Please return it. It is marked 14 C.

The new Edison Co. at Lawrence, Mass. has obtained a permit from the local authorities and a committee from the company will visit this office this week to arrange for immediately pushing the business in Lawrence.

No word as yet from the Edison company of New Jersey about that plant with aerial wires in a small town.

The Pepp. R. R. people in Phila. so Hoskin writes, are tired of buying current from the Brush Co. and wish to put in their own dynamos for about 72 arc lights or their equivalent

in our lights. We are going to put in a bid. *5 our lights distributed will give better relief than 1 arc*
 Vail thinks the plant of one Z dynamo in Vendome Hotel, Boston, can be started by about July 1st. *light*

Hoskin is going to make a proposition to the Western Union people in Phila., at their request, for a Z dynamo and engine. Also for the Record Office in Phila. where they will need nearly 250 lights.

W. H. Moore's report of canvassing for last week shows a very thorough canvass. Mr Hoskin's weekly report is also creditable. In each case the name of every party who is canvassed is given together with the various details, also what they say about adopting the electric light. I am surprised to see how many arc lights are in use, as is shown by these reports. Many people admit the superiority of the Edison light, but the expense of introducing it seems to be a great objection in their minds.

We have obtained from the Secty. of State at Albany a list of the gas light companies in the State of New York. There are 259. This is the way the matter stood Jan'y. 1st 1882, consequently in these towns (in some there are more than one co.) the territory belongs to the Light Co. and every thing outside of it belongs to the Isolated Co.

W. H. Moore's report for last week is so interesting that I venture to send it to you. I think such information is very instructive. Kindly return it. It is marked 14, D.

Mr Waters has reached the Durant plant in the Adirondacks. They have changed the building so that he has some new wiring to do. He says they have kept the engine in good condition during the winter.

Paine is a very nice man to work for

agrees to him

When Moore was in Providence last week he arranged with a brother of Borden's Mr Paine, who is an architect in Providence, to give up his business and to come to the Isolated Company's office in this city for the ~~pur~~ purpose of establishing a sort of desk for making estimates and attending to all the details of figuring and making drawings. Both Borden and Paine recommend this brother of Paine's very highly. We need such a man provided he is a good one. He will want about \$1500 salary.

Mr Osborne suggests that we give him right away a list of the first buildings which we wish to light up when we turn on the ~~R~~ current in Pearl St. He is so pressed with work from various light companies that he will be unable to give our requirements exclusive attention so it is necessary that we give him good notice in advance of the buildings we would like to have inspected first. Of course we must obtain in all cases certificates from the Board before the current is turned on, and if we give Mr Osborne a reasonable notice in advance he will put himself out to examine our buildings so as not to subject us to any delay. I assume that you have your own ideas as to what locality in the first district you wish to light up first. I believe Winslow, Lanier & Co. are very anxious to be lighted up among the first. Will you please give me by return mail your instructions in the matter and I will then submit them to Mr Osborne and see if he will be willing to inspect such buildings as we may designate at an early day? He says he stands ready to do so.

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We are making good progress in the Canadian matter and Mr Swinyard will stay here two or three days longer during which we

9th June
He made
should be recognized
He has a book on the
thing since 1898

*To a man in Chicago with
the idea is rather common*

hope to close it up. We reserved the right however to, make the contract either with him or with any other person we may select, ~~namely~~, I have gone over the proposed new lamp company contract and have made memoranda which I have this day sent to Mr. Lowrey. I suppose he will talk this memoranda over with me tomorrow or next day and I see no reason why a final draft of the contract could not then at once be submitted to you.

Mr Osborne wishes me to say to you that he has been shown a new lamp, (incandescent). He says there is a carbon inside of a glass globe, that the stem at the bottom of the globe is surrounded by wire coil, that a fierce alternating current is driven through this surrounding wire coil whereby the carbon is illumined by induction. He does not know whose lamp it is. Possibly this is the Daft lamp. Osborne is quite excited over it, but these wonderful new lamps have grown to be such an old and oft told story with me that they have long since ceased to impress me. However, I believe that it is a correct business principle to treat all matters appertaining to my business seriously and carefully, so I try to look into these things patiently.

In Dodge's report of June 9th, he says he has a report of 12 house connections having been made, and there were perhaps six more of which no returns had then been received. A foreman, two fitters and 1 helper, put in about 2 a day.

76 Enclosures
Mf

Thursday, June 15th. 1882. 12, A. M.

CITY OF WORCESTER. Paine talked up our light on this steamer to the Bates Mill people in Maine. They came to N. Y. and travelled on that steamer. The light was burning very badly and they were dissatisfied. It seems that the man in charge of the plant takes poor care of it and that the lamps are burning very badly. Vail will see Capt. Gardiner at once.

PATENT LAWS. The arguments against House bill 6,018, are

FIRST, that it is unconstitutional because it destroys the remedy of patentees to such an extent as to vitally impair their rights of property.

SECOND, even if the bill is not unconstitutional as regards future patents, it is certainly so as regards patents already issued, because they are property already vested in the owners, and no legislation can to such an extent be allowed to affect existing rights.

THIRD, the bill invites foreign piracy and foreign manufacture. If an inventor holds patents in a foreign country, he might perhaps prevent the manufacture there, but he would be obliged to find out the fact and place of manufacture, then prevent it if he could and meantime the manufactured article could be shipped to this country and sold here.

FOURTH, there are the usual objections of injustice and fraud on inventors, and

FIFTH, there is the additional point that it would discourage inventions and thereby check material progress throughout the country.

ORGANIZE & PROTECT PATENT LAWS. I am not sure but what the

Gramme company had better take the lead in organizing all the patent interests of the country in favor of looking after legislation at Washington. The Granger's organization publicly avows war on patents and the obliteration of the provision for patents and copy rights from the Constitution of the United States. Organization should be met by organization. Let the patent interest be organized and work quietly and intelligently to head off this Granger influence. It can be done if the power of the vast capital invested in patents is used with moderation and sound sense. My impression is that the Gramme Company had better take the lead in forming such an organization between now and next winter.

RIO. Am just in receipt of a letter from McCarty from Rio dated May 25th. He says the agent of the Brush company appeared at Rio with some machines but did not remove them from the steamer on account of being afraid that their patents would be invalidated. He took the machines to Buenos Ayres. McCarty is still running the plants at the railroad station and says "everything is in splendid order." They got an application from the city of Campos for some machines, and the people were disgusted to find they could not get them to light up immediately.

SHAW'S PARTY. FRIDAY. Last Evening (Thursday) I had Shaw's delegation here from Toledo, Cincinnati and Phila. I gave them between two and three hours of my best gild edged gospel on the Edison light.

LAWRENCE. This morning I had a committee from the Lawrence company. One of the Committee is the leading druggist in Lawrence and the other runs the most conservative savings bank in the city. They can raise \$30,000 and after giving us \$3,000

will have 27,000 left to put in a small central station covering a few blocks in the business centre of the city. If that succeeds they will extend the system over the city. They are going to make a canvass next week and after they send it to me I will send Byllesby on to estimate the cost of their plant. I hope it can be done at their figures.

PRESENT PLANS FOR BUSINESS. We have now on hand models of three different types for lighting cities. First, there is our big central station model on Pearl St. Second, there is a small central station plant, namely, the Lawrence plant mentioned above, and third, there is the village plant, the model of which I hope will be in New Jersey the company there now having under consideration the matter of putting up a plant in a convenient village in New Jersey. These three will give us models or samples for these types of plants.

CANADA, SWINYARD & HEARLE. The party I sent to Canada to investigate Swinyard and Hearle has returned and made a full report. He did a prompt shrewd and successful piece of work. Swinyard is by all odds the best man for us to deal with. But we must also pacify Hearle. Probably I shall go to Montreal within the next week or two and try to satisfy Mr Hearle while at the same time ^{we} promote Swinyard to the leading position in Canada. It will be a difficult and delicate thing to do, but perhaps I can do it.

Baltimore. I am crowding Shaw to have his people in Baltimore organize at once and give us an order for a plant in that city. Of course they want to wait until we get started on Pearl St. But I am crowding him all the same.

Swan's Patents. Wilber has made me a lengthy report

on the Swan patents. At present there is no act of infringement upon which we can bring an action against Swan.

AMERICAN EXPRESS BUILDING. We are preparing an estimate for 250 lights for the American Express Building.

WEED, PARSONS & CO. This plant at Albany will be running the first of next week. Mr J. C. Wilson is doing the job for the Isolated Co.

QUINCY HOUSE, BOSTON. The proprietor of this hotel is thinking of adopting our light now that the Vendome hotel has adopted it.

SWAN LIGHT IN BOSTON. In Boston the Swan Co. is reported to be putting in a 60 H. P. ~~Wicks~~ Babcock & Wilcox boiler together with a Jarvis furnace at their new works on Hampden St.

BANK BALANCES. The Light Co. had yesterday in bank \$2,056. Ill. Co. had nothing but were overdrawn at D. M. & Co. \$18,620. Isolated Co. had \$15,607.

CENTRAL STATION DYNAMOS WANTED. Mr Mora wishes to know immediately how soon we can furnish him with two C dynamos for central station lighting. My recollection is that you are having two extra ones built. Please telegraph me what reply I shall make him as he wishes to know immediately if possible.

CHILI. Have a letter from Stewart. He reached Valparaiso May 9th. Gas at Santiago has been reduced from 6

\$5 and the stock has fallen from 130 km where it was when Stewart left to 112, without buyers. The light in the hotel at Vina del Mar has been taken down to be sent to some other point.

The guests in the hotel miss the light so much that the hotel proprietor has put in extra gas jets as the guests now find too much darkness since our light was taken away.

*15
M.B. we make
are waiting
to get
to get
to get*

RIO. Messrs Moore & Co., Fabbri & C. agents, write that only 8 lamps have required replacing although the plant has been running in the depot at Rio for upwards of three months.

A section of Brazil, 12 hours railroad ride from Rio, has offered to get up a company (municipality of Campos) with 250,000 capital United States money provided patent legislation is secured in Brazil. The prospect of that is improving.

PHILA. GAS. Hoskin writes that the Phila. Gas Works may come under new management, and that gas will be reduced to one dollar and a half. Hoskin thinks that he stands a poor chance of getting the job of lighting the Penn. R. R. depot at Phila. as he says the officers hold too much Maxim stock. Yesterday the Phila. Common Council received reports from WM! W. Harkness and Prof. Houston stating that underground conductors were practicable.

BOSTON, Mass. Munroe writes from Boston that he has very reason to believe that he will secure an order to wire the new building of the Boston Advertiser which will be ready for wiring about Aug. 1st. if they decide to have it wired.

VANDERBILT'S BILL. I suppose you had about as soon be shot as be bothered with seeing Mr. Wm. H. Vanderbilt about his bill. But Vanderbilt will not settle it with anybody else but you personally. Can I make an appointment with him you and him me to call upon him? Please say.

Yds -

Saturday, June 17th. 1882. 2, 30, P. M.

WATERVILLE. Paine thinks he has sold a K dynamo in Water-
ville but will know certainly next week.

ADIRONDACKS. They started the lamps there Thursday night.
I judge they work well. You remember this is the Durant order
which has not been paid for. Durant will pay if the plant now
gives satisfaction.

GAS COMPANIES IN TEXAS. There are only four cities
and towns in Texas that use gas, January 1st. 1882.

ROCHESTER. Japan Moore writes from Rochester that gas
is only one dollar a thousand there.

PATENT LITIGATION. I note that you say we shall prob-
ably have to take the Diekersons. But you also want Betts in
the case. Mr Lowrey is unwilling to take charge of the case him-
self as he does not feel that he can depend upon his health.
But he will take an active and careful supervision of the case
as it progresses.

MR OSBORNE. Relative to Mr O., his time is so much
occupied he says he cannot serve us on a week's notice. He says
he must have several weeks notice and then he will manage some
how or other to inspect our work during that time. Mr O. is the
only inspector of the insurance company, and is an exceedingly
busy man. We have to do what he wants us to do. We cannot
command him when we want him. Under these circumstances it seems
to me of great importance that you should decide at once what
general localities in the district you will light up first. Green-
field can then pick out the specific houses in those general
localities

*better fight
out the gas Co.*

*Let Greenfield
select say 30
places*

*industry
D.M. 1882*

Monday, June 19th. 1882. 4, 15, P. M. ~~xxxxxxx~~

HOW THE MAXIM PEOPLE WIRE. Paine writes from Lewiston,

that in the Worumbo Mill, the Maxim people use a wire of nine times the capacity in one place, and in another case they use a number 6 wire to carry two lamps 125 feet, whereas a No. 18 wire will carry two of our lights 426.

CITY OF WORCESTER HURTS US. Paine writes that Messrs

Edwards and Barker of the Bates mill cannot get over their disappointment at our light on the City of Worcester. However, Paine does not give them up. Meantime Vail is trying to straighten out our plant on that steamer and have it given proper attention.

OUR LIGHT IN PENN. DEPOT. PHILA. Hoskin writes that

the Maxim Co's stock is so generally distributed among the railroad officials in Phila., that he has not very much hope of our getting the order to light the Penn. depot.

THE GENERAL ORDINANCE IN PHILA. The General Ordinance

for laying underground conductors in Phila. requires an annual payment of 15 dollars per mile for the conductors for electric lights and five dollars a mile for conductors for telegraph, telephonic and other purposes.

BUDA-PESTH. Batchelor writes that a Mr Gans of Buda-
Telegraph

Pesth put in some lamps for us in the Gen. Rank Office in that city. A Polish arc light, also Maxim lamps and a Swan lamp were likewise put in. It was a bad experiment for us. We had no good regulator, consequently Mr Gans burst all our incandescent lamps in a very short time and the installation was a fizzle. Thereupon it was ordered out of the building. Since then we have gotten back in the building with a good deal of difficulty, but now have a provisional installation of 60 A lights. Thus it seems the laws of nature and of mechanics are just about the same in Hungary

~~xxx~~ as they are in Washington

BRUNN. Bailey sends me an extract from a Brunn paper. It says that the Edison company is there trying to get the city authorities to consent to introduce its light into a new theatre. The Edison company is to put the light in at its own expense a light up the theatre with a guarantee of perfect results for a number of years, and the city authorities will pay so much a year for the light and at the end of ten years will pay the expense of the installation. I presume that Bailey is trying to get the light in there in order to facilitate the formation of a local company. Doubtless he ~~xxx~~ knows what he is about. But I must say I regret there is any necessity for his doing business in that way. *do I*

UNDERGROUND CONDUCTORS IN THE NEW DISTRICT. Kruesi has made a very intelligent report to Clarke containing suggestions for improvements in the new district. He recommends that tubes be run three feet from the curb. He says the new T boxes will weigh only one third of the present one and that a saving of two thirds can be made in the compound. He will dispense with the card board. He says they are no good but often the contrary. He will use glass and two iron washers and thereby save ten cents a box. He wants to use thicker iron so that pick holes will be avoided. He will increase the size of the junction safety catch boxes. He wants test holes sunk in order to decide how deep the plant should be put, and yet avoid vaults. His conclusion is that service connections cannot be put in at the same time the underground plant is put in. He has a good many other devices all looking towards economy, simplicity and perfect insulation. He thinks he can now lay 2000 feet a day. He thinks the saving in

the case of conductors, as compared with those now in the first district, will be fully 30 per cent.

FRENCH ENGINEERS EN ROUTE. Batchelor writes that he is about sending two Frenchmen here, both good practical engineers, to learn the central station business, in all its details.

HIGGS IN GRIEF. The Phila. papers of last Saturday contain notices of Alfred Paget Higgs in which he is called a first ~~xxx~~ class confidence man &c. It is pretty rich reading. One paper says Higgs' lamps could not be lit, but he lit out.

EDISON'S MISTAKE. You have evidently ~~xxx~~ made a mistake in not so conducting your inventions as to get yourself arrested and incarcerated. There is where Goebel has an advantage over you. The London Electrician of June 3rd. has a notice of 20 lines of the Goebel lamp, and one quarter of it is devoted to the fact that Mr Goebel was once arrested, a la Galileo, for being too scientific. He caused an alarm of fire to be sent, by exhibiting an incandescent light 29 years ago! The exactness of the details of this exhibition as published in the Electrician are marvellous. Not only is the number of the house given, where this was done, but the number is even split in two, so that it reads two seventy one and a half. Please especially notice the half. Evidently Edison ought to have had himself arrested, then he would have been ahead of Goebel.

FIRES. The Electrical Review of May 27th. states (page 273) that the majority of little fires connected with the electric light have thus far been in those systems employing the incandescent lamp. The use of the word little makes me think that the big fires have all been caused by the other systems.

MR OSBORNE IMPATIENT. Mr Osborne called again to day

to inquire what buildings we wished him to inspect first. I told him I expected further advices from you on this point at an early day. Of course it is for our interest to show Mr Osborne that we appreciate his interest in the matter.

250 LIGHT DYNAMO SHIPPED. The 250 light dynamo for Mr Bliss in Chicago was shipped to day. Dean would not allow Moore to box it at Goerck St. Dean said he could not spare the room. I ~~kkk~~ guess that Moore thinks that since he has been able to box dynamos for a little over five dollars a piece (which used to cost Dean 20 dollars to box) Dean feels a little timid about allowing that class of work done at Goerck St. This dynamo has now been boxed on Sixth Ave. It was put in 4 boxes. The heaviest weighs about 2400 lbs. The other three weigh about 2000 lbs. each.

FAURE BATTERY. Some time ago you wrote me that you would send me an item for the Bulletin on the question of storage batteries. Our friends throughout the country are a good deal exercised on this subject. If I can make a good item in the Bulletin about it I should like to do so. Will you kindly let me know whether you think it worth your while to do something for me in this regard?

GODDARD AND EUROPE. Goddard leaves the office tomorrow and sails Wednesday morning early. He has been given a leave of absence for a month but I hardly think he will return within a month. If he is back by the 1st. of Aug. I shall be quite satisfied.

HARPER'S WEEKLY. Mr Kobbe will write a column for Harper's Weekly on the Edison Railroad, to be published in connection with illustrations, which Harper's Weekly already has. Mr K. will

visit Menlo Park within a day or two, possibly tomorrow, to get full and accurate information for his article.

NO PERISHABLE SECRETS In your letter of June 16th, you replied to my statement that Mr Graves thought we ought to publish something in the Bulletin to the effect that there were no secrets connected with the Edison system which were locked up in your breast alone. You remember he referred to the possibility of the company being injured in case anything happened to you. Referring to this you said that something might be said in the Bulletin "about the various processes in connection with our system being in the hands of the Company's officers." I do not quite understand what you mean by this. Shall I state that there are no secrets whatever connected with the business which are not known to the proper officers of the company, outside of yourself? Or had I better not say anything in the Bulletin about it.

VRS

To. W. to be returned

Tuesday, June 20th, 1882. 4, P. M.

LAWRENCE ENGINES. A. & S. write that they will give us two 6/16x3 engines on the 28th, and will give us three more 3 days later that is by Saturday of next week. One of these we hope to put in this house as our plant here at 65 is in very poor condition.

TRENTON IRON CO. Hoskin called at their Phila. office last week and they told him they like our light very much. They broke two lamps in two weeks.

WORK ALL NIGHT. Hoskin is putting special efforts on trying to secure orders from people in his district that work all night, of whom he finds quite a number. He thinks the prospect for two or three orders from that class of people is good.

BAD NEWS TRAVELS: Japan Moore when in Buffalo last week drummed a local newspaper there. They said they had reports of our light from Rand, McF Nally & Co. They were not altogether favorable. The complaint was that too many lamps were broken.

ALL NIGHT PEOPLE. Japan Moore has found several more all night factories in the Western part of the State and is laying himself out on them.

INSURANCE RULES IN BOSTON. Woodward (Atkinson's friend) has arranged with Clarke and Goddard to write us a letter giving his interpretation of the recent printed Underwriter's rules in Boston, so far as the same apply to our system and our wiring. His interpretation will be just what we want, so we expect no trouble in Boston with the insurance people.

PORTER ENGINE: Dean wants two of the six Porter engines belonging to the Illuminating Co. and now at Porter's shops. I told Clarke this morning to let him have them.

PORTER BACKS DOWN. Porter told Clarke yesterday

that he confessed that the cylinders in the six engines thus far delivered for our central station were imperfect and that it was his duty to build new cylinders and to insert them in the place of the old ones at his own expense. He will do so and will make the change one by one and will see that it will not put us to any inconvenience. You know he has already admitted that the governors are imperfect.

BALTIMORE. Shaw and Detwiler have had a preliminary meeting of their applicants for a license for Baltimore. The law firm of Marshall, Fisher & West, Baltimore, was selected as counsel for the proposed company and they will now look into the laws touching the powers of the Board of Aldermen and as soon as that is done they will go ahead with their company if the laws are all right.

DR. MOSES. HIS ARC LIGHT. Moses has decided to construct an arc light on his present drawings and to bring it to me in a few days. He will do this at his own expense. The lamp when presented to me will be shown to you, and you are to say whether we shall test it. If you say test it, and it works well, we will then make such terms with the Doctor as the merit of his invention may justify. Meantime we execute no contract whatever with him. He will at once file applications for patents in his own name, but will not take out any patents until satisfactory arrangements with our Company, after experimenting and testing, shall have been completed. I am hurrying the Doctor up all I can, for if we are going to have an arc lamp to run in our current, I should like to see it put on Fulton Street as soon as we get our light started down there in the first district.

STERLING WANTS TO LECTURE. Clarence Sterling wants us to back him financially in his lecture on Electricity which he wishes to deliver throughout the country next winter. I enclose his letter which please return with your comments. There is no reason in the world why we should do this, unless his testimony in some future patent suit against Maxim is so important as to make it for our interest to consult him. My recollection is that he did not turn out to be a very important man. But you talked with him very fully yourself and I wish you would tell me what your recollection is. Please return his letter. It is marked 20, A.

PHILA. RECORD. Hoskin telegraphs to day that the Phila. Record have given to us their order to light their new building with one of our plants. We were rather afraid the Maxim people would get this order, because the proprietors of the Record are personal friends of the Maxim Co. in Phila.

Mr Edison,

June 6

Please excuse appearance of this memo, as typewriter
is out of order. Respectfully,

F. Mc. Gowan.

no enclosure to be returned

Wednesday, June 21st. 1882. 5, P. M.

SEEING EDISON AT GOERCK ST. I received word that

you were at Goerck St. this morning. I was about starting there to see you, when Mr Hoffman, Borden's friend, called and kept me nearly two hours. I had nothing of especial importance to see you about, merely to talk matters over generally.

PROPOSED COMPANY FOR MASS. Mr Hoffman and Mr Borden have now changed their policy regarding a proposed company for large territory. They now propose to do just what the Chicago company does, namely, exploit central stations with their own capital unless good local companies can be organized. Hoffman wants to get up a Mass. company, and have it at once start a central station at Boston. He wishes to reserve the right to get up subordinate companies, just as the Chicago company, if he wishes to do so. Borden will take the general management of the business. I think the matter is worth earnest consideration.

INCONVENIENCE OF ISOLATED CONTRACT. I sometimes wish there were no isolated company. Our local company in Lawrence wishes to embrace two neighboring towns Andover and Methuen in their Lawrence territory. These towns are practically a part of Lawrence and in a few years will be united to the city of Lawrence. The factories in these towns are treated as Lawrence factories in all business details. But the parent company cannot sell them these two towns, and it is difficult to arrange satisfactory terms for them because it involves another contract and different principle of compensation. The same question comes up again in South Carolina. The Charleston company will run the whole state, and they wish to make but one contract. The same question is now presented in Chicago. Stager's company has secured

one territory within gas limits, and he finds it awkward in doing business. He can secure the rest from the Isolated company, but he considers it a conflicting and unsatisfactory way of doing business. The same question was presented in San Francisco, and Ladd is obliged to make two different contracts with two different sets of terms. This proposed Mass. company of Hoffman and Borden will bring the same question up again. Thus I sometimes wish there were no Isolated Company. Possibly the parent company may sometime before long absorb the Isolated Co., increase its own stock and buy up the Isolated Co. by giving the stockholders in the latter company some stock in an increased ~~new~~ capitalization of the parent company.

CANADIAN CO. Swinyard has gone back to Canada.

I enclose a copy of the memo. which he takes back with him. The most difficult matter presented there is what to do with Hearle. We have decided that the best way ~~is~~ is for me to go to Montreal next Monday night and pay Hearle the compliment of coming there personally to see him. My purpose will be simply to induce him to accept his being superseded by Swinyard as pleasantly as possible. I shall expect him to meet me with the same smiling face with which the culprit greets his executioner.

POLICY IN CANADA. I do not propose to have an isolated co. formed in Canada. I find from experience that the division of territory between two different companies is very inconvenient in dealing with licensees. In Canada the parent company will itself do the isolated business, and I am not sure but that it had better do the mfg. business. I am afraid that if a separate company is formed for mfg., the profits will make the plant so expensive that it will be hard to compete with gas. If the par-

ent company should also own the manfg. business, they might be satisfied with less profit than an independent company would. But if that reason is true of Canada is it not also true of the United States? Am I right about this? Please give me your views.

GODDARD GONE. Col. Goddard sailed for Europe at an early hour this morning. Bon voyage.

BRUSH CO. Did you see the cable from London about the Brush Co. which was in the Tribune this morning? The Evening Commercial last Thursday night had a long editorial on electric lighting, in which great praise was given to M. Montgomery for making money for Brush company in England.

SUING SWAN. My present inclination is to give the general conduct of the suit against Swan to the Dickersons, but to secure Betts to assist them. They are not in many respects entirely satisfactory to me as counsel in such a case, but on the whole I am not sure that we can do better than take them. Swan has even less than I supposed he had. Really I consider it almost a fraud to float an independent company on so little.

Hoffman
Knowing that Mr. Saxe is well acquainted with the proprietors of the Swan parent company, I spent nearly an hour this morning explaining to him our patents and showing him the Swan patents. He said that the people who were investing their money in the Swan company evidently had no idea of what the facts were about the patents and that Swan had so little patented in this country.

WATER SUPPLY AT PEARL ST. I believe Clarke has told you that Horgan will build a cistern in that little yard behind our station to hold a few hours supply of water so as to guard against the Croton supply being stopped. The Croton water is

shut off sometimes to make repairs.

COAL FOR PEARL ST. We have arranged with Cavanagh to furnish us coal at \$4.85 a ton for the present at Pearl St. Cavanagh is intimate with the officials who control the docks and he thus gets his coal barges at convenient spots and also gets his ashes on the city dump. Our arrangement with him is only temporary, pending subsequent arrangement on a larger scale.

LAWRENCE CO. The Lawrence company has organized. They wrote me to day that they have called in \$30,000 for a small central station right off. Bylsby is to take charge of making estimates and doing the figuring in such cases. He has gone away to be married and will not be back here until the first of next week.

TO CLOSE EVENINGS. I have decided to close the office evenings during the fourth of July week. The ostensible reason is to give our employees those evenings for themselves. The real reason is that we are going to put in a new engine down stairs which would prevent our lighting up at least two nights, so I thought I would make a week of it and treat it as a sort of vacation.

VANDERBILT. I wish the Vanderbilt matter could be settled, especially for the reason that we need the money. I think I have asked you in a previous memo. if I could not make an appointment for you and me to call on Mr. Vanderbilt in the matter. Please reply.

22. A. 22. B. 22. C. 22. D. 22. E. 23. A
23. B. 23. C. to be returned

Friday, June 23rd. 1882. 12, P.M.

I think we don't need it - after the first part of the paper -

MORTON'S INVENTION. Enclosed please find a copy of an application for a patent made by Mr Morton. Also an opinion by Major Wilber on said patent. Also a third paper being a memo of Major Wilber on the subject of lamp guards. Please inform me whether you think we had better buy this invention from Mr Morton. Also please inform me whether Wilber had better apply for a patent on the basis of his memo. He says that the memo is made for the benefit of the company and that the company can have the patent if one is granted. They are marked 22, A, 22, B and 22, C.

*to E. Betts
to E. Betts
to E. Betts
to E. Betts*

THE WESTON INTERFERENCE. Enclosed please find letter from Mr Betts marked 22 D, which please return with your views. If Betts asks an extension on the Weston case, he will be obliged to give extensions on other cases. What on the whole is the best policy for him to pursue?

LAST DEFECT REPORT. I note what you say about repeating the complaint touching switches. Bergmann has replied, and you will see he does not complain of repetition. I enclose his letter marked 22 E which please return.

MOVING THE METER BUSINESS. We hired a testing room at Goerok St. and have always paid rent at the rate of \$500 per year. Mr Dean has been using a portion of it for many months, say a quarter of the room. Besides that he stores patterns in the room. Inasmuch as we hired the room and pay rent for it and have been at a large expense to fit it up for our work with the understanding with you that it would be permanent, it would seem that we are fairly entitled to decide who should vacate, whether Dean should vacate or a branch of our business.

But the proper way to look at it is to consider the

wants and necessities of all parties and then if there must be any inconvenience suffered by any body see who can do the best.

Now as regards the meter business. If the entire meter business is moved to 65 Fifth Ave., it will require the building of a pier over 20 feet high. Clarke thinks the pier ought to go 8 or 10 feet underground. There is almost a constant jar in this house from the passing of wagons on the street. Besides the expense of the pier there would be considerable additional expense for carpenter work.

But there is a greater objection than the expense of the pier and that is the expense of running an engine simply to get up current for the meter business and for experiments in connection with the meter. Clarke says the meter dept. in its present condition must have at least a small amount of power at its command. If that is so we certainly do not wish to put it in this building where the expense of furnishing power would be large.

The meter business cannot be moved to Pearl St. because there ~~is~~ will be a jar in that building.

Under those circumstances, my own judgment is that the meter business had better stay at Goerck St., certainly for the present and the party who can with the least trouble suffer inconvenience is the gold plating dept. which is now usurping a part of our own premises at Goerck St. We can sell those barrels, which have turned out worthless, and by taking that space, and also taking the space now used for gold plating, we can get along ~~as we~~ as we are now at Goerck St., provided we put up some cheap rough wood shelves for at least temporary use.

In coming to this conclusion I am actuated solely by a

We can of course get along at Brackets with the plate for months to come but ultimately the cost is too high to be paid. It is better to make a decision to get out of Brackets and move to a new place. Eight of the directors are my close friends and I feel almost certain we will also do it for the same reason. We are going to take a room at the Hotel Brackets in New York. I will be in the city all winter and am going to give a lecture in New York.

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desire to save expense. Our parent Light Company has to bear the burden of all the expense for everything and as our funds are very low and as the patience of our Directors has been taxed so openly by changes and movements, I really don't go before them with a proposition to make another change, at least until we shall have received some revenue from some source. And inasmuch as we have been paying \$200 per cent for the testing room with the understanding that we could have the premises permanently, and inasmuch as we have made permanent improvements, their in view of that undertaking, and inasmuch as we have contributed towards the expense of a boiler with the distinct understanding as explained to our Directors that the reason why we did so was in order to give us power in the testing room, it really would seem to our Directors as if I were using very poor judgment if I should go before them with a proposition to move especially when moving would be attended with considerable expense.

Let me suggest that the gold plating dept. be taken out of the testing room and that we then be allowed to get along there without moving. We will agree to do so at least for several months yet until the down town station shall be in good operation and other things may have happened to encourage our Board.

TEACHING FOREIGNERS. There is now one man from England besides two men from France here learning our business. These men require a good deal of time first and last from our own people. For instance, Mr Clarke has to give them a good deal of time. And from the plan of investigation which one of these Frenchmen has unfolded it will take many solid days of Mr Clarke's time and of that of his assistants. It is the same old story of the Light Company bearing the brunt of everything and giving them away to

2/10/1914
showing Mr Clark have
note of 50 per cent
of the interest of the Light Co. to have
the other companies for nothing. Now what attitude do you recommend
to our giving the Englishman information and I suppose that Mr
Banker who is largely interested in the European Co. will not
object to our using the time of the Light Company to teach the
Frenchmen: But I have a duty to perform as an executive officer
towards stockholders who are not interested in either of these
outside companies. My plan heretofore has been to act generously
and give whatever was asked. But the matter has now become pretty
burdensome and will probably attract the attention of some of our
larger stockholders. I see no way whereby the Light Co. and the
Ill. Co. can be paid unless it be either in a percentage of stock
in the foreign companies, which after all is rather an absurd
suggestion, or a round sum of money, which is not quite so absurd.
I should like to have your views in the matter as I wish to talk
the matter over before our Board of Directors in order that I may
escape any future unjust criticism which may be hereafter made
against me for suffering these things to go on? I shall ask the
Board of the Light Co. and the Board of the Ill. Co. to lay down
a policy in the premises. They will undoubtedly wish to know
your ideas on the subject and I will thank you to let me have them.
Mr Armington. He did not call upon me the other day
as I understood you to say he would. It seems to me very poor
judgment, in view of the past, as I stated to you the other day,
for us to agree to take the A. & S. engine and no other. Poss-
ibly if they will at once make a written contract agreeing in all
cases to fill our orders first, and to take all orders subject to

Handwritten notes in left margin:
 I have agreed only
 that I could do as I pleased
 with the other companies
 and I have no objection
 to our giving the Englishman
 information and I suppose
 that Mr Banker who is
 largely interested in the
 European Co. will not
 object to our using the
 time of the Light Company
 to teach the Frenchmen
 But I have a duty to
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 A. & S. engine
 and no other.
 Possibly if
 they will at
 once make a
 written contract
 agreeing in all
 cases to fill
 our orders
 first, and to
 take all orders
 subject to

that I take on this subject with reference to our Board of Directors?
 I suppose that Mr Fabbri and Mr Lowrey would not object
 to our giving the Englishman information and I suppose that Mr
 Banker who is largely interested in the European Co. will not
 object to our using the time of the Light Company to teach the
 Frenchmen: But I have a duty to perform as an executive officer
 towards stockholders who are not interested in either of these
 outside companies. My plan heretofore has been to act generously
 and give whatever was asked. But the matter has now become pretty
 burdensome and will probably attract the attention of some of our
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 for us to agree to take the A. & S. engine and no other. Poss-
 ibly if they will at once make a written contract agreeing in all
 cases to fill our orders first, and to take all orders subject to

such contract, we might do it. But Armington did not call upon me with reference to the matter, and I rather think you will find his company will decline to execute any such contract. Meantime is not the best course to get all we can out of Armington, and yet look around and investigate to see if we cannot find another equally good and possibly better engine? I have found it a pretty good rule in life to judge a man's future by what he has done in the past, and judging from the conduct of A. & S. in the past I somehow have not entire confidence either in their gratitude or their sense of justice and fair dealing.

Handwritten signature

MOVING CLADIUS TO THE OLD LAMP FACTORY. Clarke says the jar at the lamp factory will be fatal to the work which Cladius is doing. Clarke will go out to Menlo Park to look the matter over and have a talk with you. We will then decide.

GOOD SHOWING FOR BUSINESS. I have had a list prepared of all the plants already installed in the United States. They number 67. They show a total of 10424 lamps. That item is divided up in 4920 A lamps and 5504 B lamps. The total number of A lamps, actually burning is 2475 and of B lamps 4828. The total number of a lamps being installed is 1635 and of B lamps 676. The total number ordered but on which work is only being commenced is 810 A lamps. The total amount is 10424.

LOGAN & MC LAUGHLIN. I hand you herewith a letter just received from Mr Ladd which shows that we have lost a good deal of valuable time and possibly some prestige in waiting these many weeks for Logan. I am sorry he could not have made up his mind long ago. When he was last here he told me that he had everything arranged with Ladd and that the matter was substantially settled. Probably he has some explanation for his conduct, but judging it

from such information as we have, he has not behaved quite well. Please return it. It is marked 23 A.

HEISLER-SEIMENS RAILWAY AT ST. LOUIS. I enclose a letter from the Gramme Company just received. Please return it. It is marked 23 B.

THE LATEST SCARE. One of our stockholders, also a reporter from the Times, called yesterday to inquire about the truth of the statement that the gas people had acquired the control of the Edison light company through Drexel, Morgan & Co. and one other of our leading stockholders, name not given. The Times reporter told me he had been engaged in investigating the matter and was now satisfied that the report was false. The stockholder was very much excited and he stated that the information came from such a high and reliable source that it was hard to believe the story was not true. I find that out of our 7200 shares of stock there are 5878 shares held by Directors and by Drexel, Morgan & Co. Winslow, Lanier & Co. and the Cuttings. Besides this there are 772 shares held by parties who are not likely to sell. That leaves only 450 shares in the hands of small holders who are likely to sell out at any time.

STEWART AND SANTIAGO I have a letter from Stewart dated May 19th. He says they have not yet been able to secure a place for the central station as the price is too high. He also says that the local banker who thought of taking the whole of the stock in the Santiago company has made up his mind not to take it. Stewart sends an extract from a comic paper in Chili, which occupies the position Puck holds here. I enclose it. I guess the man who wrote it must have been reading Genesis. Please return it. It is marked 23 G.

Amullford

BRACKETT & YOUNG. Will you kindly have the correspondence between Profs. Brackett & Young hunted up, touching their retainer by this Company? I wish to see if it holds them permanently. The original correspondence with them about their retainer was directly between you and them. No letters whatever from them are on file in our office. I hope you may find the correspondence among your papers so that I may be sure just how they stand in the matter. Will you kindly give the matter your attention?

HARPER'S WEEKLY. Harper's Weekly contains some exceedingly poor illustrations of our work in the streets. The editorial notice of a little over two columns is apparently made up entirely from our Bulletins and from our pamphlet on the Edison light

Write full all notes for Edison from Light Co. will be better

SAN DOMINGO. Who owns San Domingo? The language of the original contract between you and the Light Co. was that of the countries of North and South America except the possessions Spain should belong to the Light Co. St. D. is an independent republic. Mr Lowrey inclines to the opinion that St. D. belongs to the Light Co. Will you please tell me whether that is your understanding? We have an application from a man who is talking about taking an isolated plant to St. D.

FAURE BATTERY & SECONDARY BATTERIES, GENERALLY. Will you have the kindness to revise your memo. on these batteries at your early convenience and send it to me? Mr Insull wrote me in his note of June 20th. that he had a memo. dictated by you but that you wished to revise it. Most of the callers who now come here have inquiries to make about secondary batteries and I feel that we ought to say something about them in the Bulletin.

June 23

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LEGISLATION AT WASHINGTON. The Gramme sub-committee

of which I am a member have adopted my plan about an organization for watching patent legislation at Washington. The Gramme company has issued a circular to be sent to the leading patent interests in the United States inviting them to send delegates to a conference to be held in this city (JULY 12th) for the purpose

of organization in a quiet way looking after legislation at Washington. My idea is that we will get all the patent interests of the country interested, that we will then keep out of the newspapers, and that we will do quiet and intelligent work at the expense of that general organization, so as to prevent bad legislation and get good legislation at Washington. That organization would have to employ a competent man to do the work. Of course it would be impossible for me to do much work in that connection myself as my time is already fully taken up.

The BILL OF SPENCER TRASK. The bill of Spencer Trask,

at cost is \$ 717.74. It is an E. dynamo and the charge for that including lamps and sockets is \$385. The balance of the bill is for wiring, Material and labor. I think your understanding with Mr Graves was that he was to have the plant at cost. If that is so I will send the bill to him.

Yes. Cost

Saturday, June 24th. 1892. 5, P. M.

MAXIM HURTS US. We have still another case in to days mail where the Maxim light is hurting us. Bancroft writes from Holyoke that he had about captured an order ~~for~~ from the Albion mills there but that the agent of the New England Weston company had just appeared and had so thoroughly unsettled the mind of the proprietor that the proprietor has decided not to purchase. Possibly however he will take a plant on loan if we wish it. The Weston man claims superior automatic regulation and greater illumination per horse power. The proprietor says he cannot go into details of tests and that he does not know which party to believe as both seem to be backed by respectable people.

GAS BILLS SAVED. The gas bill of Rand, Mc. Nally & Co. for May this year was \$30 in their rear building where the light is used. The same month last year the gas bill was \$130. They say they will pay for the plant the first of the month and as soon as they increase the size of their building will put in more lamps.

SHAW'S ENTERPRISES. Shaw writes me that his Cinn. people will be back here next Tuesday with a small delegation of heavy capitalists. He says they mean business and he also says that an additional committee from Baltimore made up of enthusiasts and sceptics, will be here at the same time. I have engaged to go to Montreal on Monday night to fix up Heale and Swinyard. It is a delicate and difficult matter which cannot be delayed. I guess I shall have to gobble up Johnson to deliver the usual lecture when these new delegations arrive.

SHALL BERGMANN SELL GOODS TO THE MAXIM CO. Enclosed please find a letter from Bergmann asking if we have any ow-

jection to his selling goods to the United States Company, presumably to be used for the Maxim lamp. Please return his letter with reply as soon as possible? It is marked 24 A.

EXIT MOTT. I was very much surprised to receive this morning the enclosed letter and memo. from Mott. My impression is that he sent the letter in to me the last thing before he stepped out of the door to take a carriage for the steamer. He had never hinted in the slightest way that he intended going abroad. I suppose we had better accept his resignation as of to day and not grant him leave of absence. Do you agree. As to his patents his memo. is pursuant to his talk with me. It provides that he will give us his inventions and we may ~~xxxx~~ take out patents for such as think valuable in the name of Mott and he will The Company is to pay the expenses of the patents. The Company shall then be free to use such of his patents as they think best and the amount to be paid Mott shall be settled by arbitration provided Mott and the Company cannot agree. If there is any patent which we do not care to use Mott shall have the right to ask and receive a reassignment of such patent from the Company to himself upon his paying the actual cash outlay upon such specific patent or patents exclusive of Wilber's services, for which no charge is to be made. If Mott has anything of value we can secure it in this way without much cost to ourselves. I dislike to have any dealings with him after the way he has acted this morning, but still it may be well to make this arrangement with him provided you think he can possibly have anything of value. Please return the enclosed papers. They are marked 24 B.

GOOD NEWS. Borden telegraphs that he has secured the order to light the Laurel Mills. They are located about two

miles out of Fall River, and the gas company, as soon as Borden started his little central station in Fall River, run special gas mains out to the mills in the hope of lighting the new mill. I have no figures but my recollection is that the plant will require about 500 lamps and I think they are to be A lamps although I am not sure.

NEXT BULLETIN. My next Bulletin is in press and will be out about next Tuesday. It will show a good deal of progress all along the line. Let me especially call your attention to the little historical sketch of the lamp factory. In future numbers I shall give similar sketches of the tube works and of Coerck St.

STEAM ON AT PEARL STREET. Hoist the flag and get out the big gun! Steam was put on at Pearl St. to day. The steam pipes were all tested and proved entirely satisfactory with one slight mechanical defect.

Village plant. Moore has told me about his talk with you yesterday and the decision to install the plant in Roselle instead of Rahway. One objection to running the wires in the rear of the house instead of along the streets, will be that the street lights will require additional wiring. But Moore says the street lights in Roselle are few and far between. I told Moore to go ahead with the plant and I would take the chances of getting the Executive Committees of the Companies to ratify my instructions

THE LAWRENCE PLANT. Byllesby will be back from his wedding tour Monday and we shall at once send him off to Lawrence to make close estimates for putting in a small central station plant at Lawrence. I am very impatient to get that started because if it succeeds there are a number of other cities close by

that will order plants.

CENTRAL STATION LIGHTING IN BOSTON. I have written Mr. Fabbri and Mr. Adams asking them if their friends in Boston will be ready to get up an illuminating company there as soon as we get started here. I think they ought to be ready to do it as soon as we show a scientific and mechanical success of our lighting in the first district. Without waiting for every house to be lighted up, and without waiting for an indefinite period until a dividend is declared.

TO WELCOME JOHNSON. I am strongly tempted to go down the Bay on the tug and meet Johnson but I am sure to be seasick, just as sure as I go on board. I not only suffer from mad sea but also from a very bad headache which seasickness always brings on in my case so I am bad company and am apt to be a nuisance to all concerned under these circumstances I think I will wait and extend a welcome to him on dry land.

Monday, June 26th. 1882. 5 P. M.

SHALL WE SELL DYNAMOS TO FAURE. Enclosed please find

a letter from the Faure Battery Company of this City wishing to know if we will sell them dynamos to charge the Faure acubulator also lamps and sockets. This brings up a new field for business and I should like your views as to what our policy shall be.

*Yes
I would
sell dynamos & lamps
if you want me any stuff to sell
I want to be
a stockholder
of the company*

You will also note that they wish us to quote them special prices.

Please return their letter with your views. It is marked 26 A.

PATENT LEGISLATION.

*They want me any stuff to sell
I want to be a stockholder
of the company
You will observe that the
bill before Congress is neither in quotation marks nor in smaller-
type that is one criticism I make. I have sent the circular
back to Hazard and will have it reprinted so as to satisfy me.
Consequently this circular which I now send you will be changed in
appearance before it is sent out. But the text will remain
the same as it is now. I send it to you for your information.
You need not return it.*

Enclosed is a copy of the circular issued by the Gramme people.

You will observe that the bill before Congress is neither in quotation marks nor in smaller-type that is one criticism I make. I have sent the circular

back to Hazard and will have it reprinted so as to satisfy me.

Consequently this circular which I now send you will be changed in

appearance before it is sent out. But the text will remain

the same as it is now. I send it to you for your information.

You need not return it.

BANK BALANCES. The Light Company has \$1,078. The

Illuminating Company has overdrawn \$23,182. The Isolated Company has \$13,475.

HAVE YOU A BATTERY AMONG YOU? Mr. Michel's, Editor

of "Science", is the man Whitlaw Reid has selected to prepare the articles on the different light Companies for the ~~NEW YORK~~ Tribune.

I have made an especial effort to capture him thinking he might

possibly capture Reid. Mr. Michels wants a small secondary

battery sufficient to run a single lamp so as to enable him to

photograph microscopic objects at night. He has no time to

photograph them by day. Have you a small secondary battery at

Menlo Park which you would be willing to loan him or to give him.

I know no reason why we should trouble ourselves about it except a desire to get into the good graces of Mr. Michels for the reason that he is looked upon by Mr. Reid as an authority on electrical matters.

FREE GOLD SEPARATOR. We have an inquiry from parties from San Domingo. They will ship some free gold to you directly to Menlo Park. They want you to try to separate it. They inquire if you have a process or machine to take out the free gold, and if so they wish to know what it is at once and to know whether they can buy it. Will you kindly reply.

THE FREEMAN CASE: Mr. Lewis has returned from his last trip to Racine to hunt up the facts about Freeman. He has made a lengthy report. I send the report to you in order to ask you to state to whether you have any recollection what you have to Bliss as set forth by him at the top of page 5 in Lewis' report. What truth is there in the statement made by Prof. Hindly as appears on pages 18, 19-20 of Mr. Lewis' report? Will you kindly give me your recollection of these two points and be sure and return me Mr. Lewis' report, as it forms an important part of my files. It is marked 26, B.

Tuesday 27th. June, 1882.

PEARL ST. STATION. I visited the Pearl St. station to day.

I was impressed with an accumulation of dirt, and with the indolence of the workmen. Three fourths of the men were doing nothing but loafing. I hunted up Mr Campbell on the top floor and he told me only two of the men belonged to him and that the rest belonged to Goerck St. I said to myself would that Dean could see them loafing round in this style! These workmen could not have shown more apathy and less interest if they had been members of the Board of Directors of our Company.

DIRT AT THE CENTRAL STATION. The central station is the dirtiest place in North America. The lower building where the pipes are stored has the dirt several inches thick from cellar to garret. I went up to Mr Pike's room on the top floor and found his few feet of surface up there pretty clean, but otherwise the building is a disgrace so far as the dirt goes. I will have Clarke put Pike in charge of keeping the building clean and I will see that he does it. As regards the building where the installation is going on, I believe the principle of carpenters and mechanics is never to clean anything up until they get entirely through with making dirt. I tell Clarke he must have Mr Campbell set aside that rule among workmen and give the thing a preliminary cleaning out.

THE STATION GENERALLY. The plant in the Pearl St. station is certainly a most impressive plant. The work always inspires me with confidence. The bold conception of the station and the careful and apparently thorough elaboration of it, must impress every one deeply.

BOSTON. Monroe spent last evening with me. He had

Mr Youmans, of the Boston Rubber Shoe Co., in tow. That company is now using 30 Weston arc lights but they want the incandescent. The Weston people want them to take the Maxim. They will want as many as 2000 half lights. Hence Munros brought Youmans here and I spent an evening with him. The matter will not be decided for one or two months.

Rich
 CUBA. Mora sends me a letter from Cuba. It is written by ~~Montemat~~ the agent of our light there. The top of the letter bears the name of the company and under it your name as President. On the other corner of the top is Montemat's name as agent. They have had some trouble with the regulator of their engine but they have so managed it as not to have any breakdown. Out of 200 hours lighting, running 70 lamps, they have broken only two lamps. Montemat is gathering statistics throughout the best portion of the city with a view of a central station. The crowds still attend the exhibition of the plant every night. The Swan light is about to make its appearance in Cuba. A party has received a Gramme machine with 20 incandescent lamps, also four arc lights and they were lighted up on the 20th. of June. They lighted up a building which is a manufactory and salesroom of fancy candies. Montemat says it requires 15 lbs. cylinder pressure to drive 10 lamps up to about 20 candle power and that they have no resistance or regulator or any device to control current. Montemat does not say whether the arc lights are run in series or multiple arc. He only says the arc lights are run in conjunction with incandescent lights and he says the arc is the Sarin. The day the Swan lamp started 10 lamps exploded instantly, the conductors became red hot and the entire insulation the whole length of the wire was destroyed. They have now taken out the arc li-

ghts and are running with 10 incandescent lights. They do not get much public attention.

WEDNESDAY, JUNE 25TH. 1932. 12, P. M.

LAST NIGHT. Shaw spent the evening with me last night with a ~~delegation~~ delegation from Cinn. and one from Baltimore. Certainly he is showing a great deal of interest in this matter. I am not informed as to the quality and character of the men he brings here, but they seem to be pretty good men. I delivered my glib edged address to them last night on central station business and I hope to announce something.

BERGMANN. Bergmann shuts down work for one week. The engine in the basement of the building has given out and his landlord says it will take a week to repair it. Regarding Bergmann's selling goods to Maxim, Johnson will take care of that. It will not be done,

JOHNSON ON PRICE OF LICENSE. I asked Johnson how he dealt with people across the water as regards the price of central stations. I notice when I begin to talk to any party the price of a central station he loses all his enthusiasm and seems to be scared by the cost. I wanted to find out how Johnson managed with his customers abroad. He says they did not get far enough along to give many quotations of that sort. But I noticed one thing in my talk with Johnson which I wish to repeat to you, namely, that at present there is probably not profit enough in the electric lighting business to warrant us in charging such a price for our license as we now charge. Johnson thinks that 35 or even 30 per cent is too much. I believe that conviction of his is in ~~the~~ line of your own conviction on the same subject. Be that as it may, I find that the large amount of investment required

for a station takes all the enthusiasm out of people as soon as I give them the figures. I get them worked up to a red heat of enthusiasm, and away it goes as soon as I quote the amount of investment required. However, we shall soon be running in Pearl St. and then I hope this difficulty will be somewhat overcome.

PHILA. The Mayor has approved the three ordinances recently passed the Common Council. One is a General Ordinance, the second is for the Maxim Company and the third for the Brush company. I am very much afraid our Phila. people are making a mistake in not applying for a right of way. The right of way granted to the above two companies is only for a limited territory. But the Drexel people are not disposed to do anything until after our down town central station here is started.

FINALE. I have a good deal more to say but am obliged to leave to go down town and I have appointments this afternoon which will prevent my saying anything more to day. I will try to send you a memo. tomorrow. I expect to go to Montreal tomorrow night to arrange matters there. I shall be back on Saturday if possible.

Thursday, June 29th, 1882.

MONTREAL LAMP FACTORY. Howell's weekly report shows that they ran off 100 lamps last week.

MY TRIP TO MONTREAL. I am going to Montreal this evening to fix up the Hearle Swinyard matter. I shall try to return to-morrow night, as I have already as much as I can possibly do from day to day, and if work accumulates during my absence I find it a difficult matter to clear it off. However I shall have to stay there until I get through with my business and possibly I will not be able to return until Saturday.

DR. MOSES' LAMP. Clarke has been over to inspect Moses' lamp. He thinks it has a good fundamental idea, but fears that Moses in perfecting the lamp will load it down with details to such an extent that he will ruin it. However, let us give the Doctor all the encouragement we can.

TEACHING FOREIGNERS. Another Frenchman has turned up from Batchelor. Clarke tells me that thus far all the draftsmen on the top floor are now occupied almost entirely with drawings for the English gentleman now here from England being instructed at Goerck St. Your suggestion about the rate of pay to be charged for the services of Clarke and others seems to me to be just right. I have instructed Clarke to adopt your suggestion and to charge for time at the rate you name. I do not think our most ^{leading} Director can object to that.

BRACKETT & YOUNG. No, we have nothing on record in this Office showing what the arrangement with them was. All the correspondence has been gone through with in the Statistical Department and the Secretary's Office and nothing appears, nor is any thing attached to the vouchers. Please let Mr. Insull see if he can find anything.

MOTT. Pursuant to your suggestion I have written Mott accepting his resignation and telling him we do not wish to buy any of his inventions.

PIERPONT MORGAN. Mr. Morgan is very much excited because Mr. Moore took some people from Albany to Morgan's house the other night to show his plant. Graves and others were of the party ~~XXXXXXXXXXXXXXXXXX~~ It seems that Moore did not obtain Morgan's consent, but took possession and lighted up the first floor for about half an hour. Morgan is very severe about it and I believe he talks to our people who call upon him in a very disagreeable manner about it. The house was not occupied and was not even furnished. Most men holding stock in our Company would not object, or if they did they would not be very severe about it. But Morgan is very much worked up. I am trying to smooth it over.

THE GULCHER LAMP. A man called yesterday to see if we wished to buy the Gulcher light and power system. He left several papers, first, the Gulcher United States patent of June 20th. 1892, second, a small pamphlet printed in London called "The Gulcher", and, third, an account of the Gulcher London Company written on half a sheet of paper. They are marked 29A, 29B, 29 C. Will you kindly return them. I assume in advance that you do not wish to buy the system. Still I send the papers out to you before giving a reply. One thing strikes me as unusual and that is that they run their arc light system with a tension never exceeding 60 volts. See page 4 of the pamphlet. If not too much trouble will you kindly explain to me how they can do that.

SHAW'S CINCINNATI PEOPLE. Shaw's Cincinnati friends spent two hours here this morning. They are not as desirable parties as his Baltimore friends who we find on investigation are first class. I say they are not as desirable. What I mean is that they do not impress me as favorably. I am going to keep them well in hand and work the thing so that if they turn out to be good people we get an order for a central station.

CLARKE'S ESTIMATES FOR LADD. Will you kindly cast your eye over the enclosed estimates made by Clarke for Mr. Ladd. I would like to have you look it over before sending it. Please return it. It is marked 29 B. Please give me your views on this.

THE BRUSH COMPANY BUSINESS. Barker writes me that he learns from Cleveland that the Brush Company has largely reduced its force and that President Leggett is quietly disposing of all his stock the business having had a steady falling off. Barker does not give his authority for that statement.

SHALL WE PUBLISH IN SCIENCE? Enclosed please find a letter from Mr. Michels which please return. It is marked 29 E. Michels is editor of Science and is employed by Whitelaw Reid to get up the article on the light companies for the Tribune. It will be impossible for him to print all the matter I gave him because it is too long. But he seems to think it is valuable and wants to print it in Science. But I have my doubts whether we ought to spend \$300. in this way. The articles consist of a full statement of the facts about our business, collected mostly from the Bulletin, or being matter which I shall put in the Bulletin during the next two or three issues. How does Michels letter strike you?

On second thought I will send you a copy of the article

as I gave it to Mr. Michels. Please return it without fail as it is the only copy we have. It is marked 29 F.

JOBBIN'S LETTER.

Jobbin's letter to you is a God-send. I have been trying to arrange a good excuse for Lewis to call upon you this affords just the right excuse. I have turned your letter over to Lewis and told him to make it the excuse of calling upon Jobbins and get well acquainted with him. Luck has certainly favored us this time. Now let us see what good judgement and diplomacy can do.

MY TRIP TO MONTREAL.

Swinyard telegraphs me not to visit Montreal until next week. So I defer going to Montreal this evening as I had intended and shall not now go until the middle of next week.

FRIDAY JUNE 30TH. 1882.

FORM OF CONTRACT.

Mr. Lowrey is engaged on a form of contract for contracts in cities. Five cities are now waiting for these contracts. Probably Mr. Lowrey will have the contract done to-morrow, and in that case I will get them off the first of the week. I am a good deal ~~embarrassed~~ embarrassed at not having sufficient competent assistants to take up matters like these contracts and dispatch them without such long delay.

GREENFIELD'S PAY-ROOL.

His pay-rool for this week is \$164. he now has a foreman at \$3. a day and 11 wiremen at \$2.50 a day except two who are a little cheaper.

BRUSH DECORATION.

I asked Stockley to-day if it was true that Brush received the Legion of Honor at Paris. He says it is but that Brush has never mentioned it. He says Mrs. Brush showed him the decoration. He says Brush was made a

Chevalier. It seems therefore that Mr. Bullock's card in the Chicago paper was correct. I was investigating the matter so as to give Bliss powder to blow Mr. Bullock up. But Bullock was right at least on that one point.

STOCKLEY'S CALL. Stockley called to-day in some excitement and arraigned me for having prejudiced Mr. Michels who is to write the article for the Tribune against the Swan light. I told Stockley exactly what I had said, and he admitted that everything I had said was proper and justifiable. I told him the Swan people must expect warfare with us, but that it would be conducted in an honorable, manly way, and that no lies would be told. Stockley seems to be very nervous about the Swan light business. In the course of the talk he said that the Brush factory was now manufacturing the Brush storage battery and that it was a perfect success. He says they will bring it out before long and make quite a stir about it throughout the country.

SHAW'S PLANS. I had a long interview of two hours with Shaw to-day about village plants &c. He places a very high price upon his services, and in that respect he will have to be corrected. But there is no mistake he does his first class work of this kind and inspires people he meets with great confidence and enthusiasm in our business.

CITY OF WORCESTER. Borden writes again that the City of Worcester plant is injuring him among people from whom he expected orders. Vail undertook to attend to that plant ten days ago. I will now have him take hold of it again. It rests in the power of people having a plant on a prominent steamship to injure us a good deal if they do not keep the plant in good condition.

LAWRENCE. I have a nice letter to day from the Lawrence people. They are ready to pay us our money as soon as we furnish them the contract. I sincerely hope Mr Lowrey will give me the contracts by tomorrow or Monday so that I can close the matter. The Lawrence people also have two orders for isolated plants which they will turn over as soon as the contract is furnished them. I try to keep all branches of work well in hand and promptly attended to, but there is always something which seems to drag. This contract matter has been dragging until it has become quite a burden to me.

TAKING FROM THE BULLETIN. I notice the London Electrician, June 17th. quotes from the Bulletin. See their item on the New York station on page 98. Mr Rich sends for additional Bulletins from Havana. He says the Bulletins are of great assistance to him.

SATURDAY? JULY, 1ST. 1882.

PROFESSOR HINDLEY. We have certainly done our best to make a friend of Prof. Hindley, and I guess we have succeeded. We gave him a lunch yesterday, spent four hours showing him round yesterday afternoon, took him to the theatre last night, and he had a long interview with me this morning. There is more in him than one would suppose. Early in life before going to college he served an apprenticeship under his father to the making of machinery, also to the making of guns. He is also a draughtsman and understands engineering. He winds his dynamos himself and does a great deal of mechanical work with his own hands. He evidently wants a larger field than his position in a small college now affords him. I AM not sure but what he would be a first class man, when we need one, to come into our employ either on central stations or in isolated. One trouble however with that class of men is they get to be fearfully long talkers and lose their snap, and seem to forget that time is money. Yet Hindley is a good man for us to keep in mind, and we have evidently made a complete capture of him. Total cost about \$13.

PORTER-ENGINES. They telegraphed us from Phila. that Dean wants 4 engines. After consultation with Clarke I have sent word to them that inasmuch as we do not care to take our six engines, in the condition they are in now, they may consider themselves free to give them to Dean or to any one else.

*Yes - get rid of them
if possible*

THURSDAY, July 6th, 1882.

Mr MORTON'S LETTER. I hand you letter from Mr Morton dated July 5th. Please give me your views. It is marked July 6th. A.

MONDAY, JULY 3RD, 1882.

Monday was a pretty busy day so far as callers were concerned. General Stager called among others and brought with him Mr Doane. Stager will remain here during the week to perfect the Chicago contract.

LIGHTING THEATRES. Batchelor writes me that he is designing apparatus for lighting a theatre at Brunn, and that he is now engaged in designing the same to light the theatre at Munich in competition with other electric light systems who will also light theatres.

FRENTON IRON COMPANY. This company has paid its bill for its plant, \$1480, 00.

PROGRESS IN PEARL ST. The test on the firmness of the iron structure reveals the fact that owing to the pounding of the Porter engine there is a vibration of one sixteenth of an inch at 320 revolutions and of one fourth of an inch at 340 revolutions. This vibration would be fatal if incurable. But a brace has been put in reaching downwards from the centre of the iron girder to the brick wall of the boiler. That stiffens the girders so that there is no vibration. The thing now is to get the pounding out of the engine. If the engine did not pound it is believed there would be no vibration whatever. Clarke is at work with Porter now on getting out the pounding.

DYER'S BILL. Dyer's bill for \$180 for the month of June is at hand and I will immediately order a check sent to you. You know we are paying a salary of \$6000 a year to Wilber and I

*9 am confirmed that
W. did not meet
with you in Wash.*

naturally feel that we can hardly afford to pay additional sums,
like this to Dyer, for work which Wilber might possibly do. How-
ever I suppose you have good reasons for using Dyer in preference
to Wilber. This is something which I would like to talk over
with you some time when we are together. It is a matter which
perhaps we had better not put in black and white. The check
shall be sent you immediately.

BORDEN'S FALL RIVER CENTRAL STATION CO. Borden says
he is making some progress in getting up his company but finds
it slow work. One party whom he relied on says that he does not
understand how the Edison Illuminating Company stock in New York
city is selling at 80, if there is money in central station
lighting. I guess Borden will pull the thing through but it will
take some time.

LETTER FROM PUSKAS & BAILEY. At last we hear again
from Puskas & Bailey. Their letter is dated June 19th., but it
is so blurred and carelessly treated, as is usual with their
letters, that it is quite difficult to read it. I have according-
ly had a typewriter copy made. Please return the same to me
after reading it. It is marked 26 B.

MICHEL'S & SCIENCE. Mr A. Hewitt, also Weston, the
electrician, also one or two capitalists have promised Michels
they will put money in a company of say \$10,000 capital formed to
handle Science. Michels very much wants you and some of our
people also to take some stock. I do not think any of our people
would care to do so. I dislike to tell him so just at present.
Are you disposed individually to take any interest in such stock
company?

EDISON INTERVIEW IN ST. LOUIS PAPER. I notice that the

American Gas Light Journal of July 3rd. 1882, page 2, says that the Western Gas ASSN. at their annual meeting paid especial attention to your interview as published in the St. Louis paper. See pages 4 & 5.

PROF. DRAPER'S PLANT. Here is a bill for Prof. Draper's plant amounting to \$525.84. My recollection is that we were to put this plant in at our own expense and make no charge to Prof. Draper whatever. But you had the conversation with him. What is your recollection about it. Please return the bill. it is marked S.C. *no charge*

PROF. BARKER. Prof. Barker was here this afternoon. He states that Draper understands Brush has not yet accomplished anything of real practical importance in the matter of storage batteries. He is going to ask Draper again about it. If that is true, somebody has done some big lying.

W. H. Vanderbilt. I have not written V. Yet because I have noticed by the papers that he has been out of town most of the time. I will not now write him to make an appointment until after your trip.

BRAMWELL'S REPORT. Johnson loaned me ~~the~~ a copy of the report of Sir. Fred. Bramwell. I have had a typewriter copy of it made for you and send it herewith. Please keep it.

THE CHICAGO CO. Stager has furnished me with a list of the stockholders of the Chicago Co. The name of every prominent man I can think of in Chicago is on the list except Mr. Leiter. He has been in Europe for some time past which may account for his not being there. You need not trouble yourself to return the ~~xxx~~ list which I enclose.

I want to have a talk with Stager if he is here after my return

Monday. July 10th. 1882.

BRUSH STORAGE. Here is a letter this day received from Stockley which explains itself. Please return it to me after reading. It is marked 10 A.

HAVANA. Here is an interesting letter from Mr. Rich. It is marked 10 B. Please return it after reading. You see he enquires about storage batteries. I would like very much to get up something in the Bulletin about it. Where is that article which you dictated to Insull some time ago? Can not you let me have it, even if it is in a rough state and I will put it in shape for the Bulletin.

PATENT LEGISLATION. Here is a circular calling for the various patent interests to attend a meeting to discuss patent legislation. I am going to Montreal to-night and I fear I shall not be back in time to attend this meeting. You need not return the circular.

ILLUMINATING COMPANY FINANCES. Here is a monthly trial balance of the Illuminating Company for the month of June. Please return it to me. It is marked 10 C.

BRUSH STORAGE. Barker called to-day and I asked him to write direct to Brush and tell Brush he wanted to buy a storage battery. We will see what Brush will say.

MR. ORMES. Mr. Ormes called Saturday and called again to-day. He wants to take hold of our light if he can make some money out of it. He wants such a contract as Hoffman (Borden's friend) wants. He wants to be a middle man and have a territory. I told him I would talk the matter all over with you on your return. He said that would be entirely satisfactory to him as he would be very busy with other matters.

14 A. 14 B. 14 C. 14 D. 14 E. 14 F. 14 G. 14 H. 14 I. 14 J. to be returned.

FRIDAY, JULY 14th. 1882.

BRUSH STORAGE. Here is a letter this day received

from Mr Stockley. Please return it. It is marked 14, A. It appears then that all Mr BRush has done is to run some lights in his house. I am not through running this matter down yet and hope before long to know just what Brush has got.

BORDEN'S FALL RIVER STATION. I enclose you a letter received from Borden dated July 13th. I have marked a very interesting paragraph in it. Please return it. It is marked

14, B. I also send you his estimate for his station. I think he claims too many lamps for two dynamos, also claims too much in calling one of our lamps equivalent to ten feet of gas. What do you think of his estimate. Please return it. It is marked 14, C.

14
26

MAXIM PREVAILS. Here is a letter from Hoskin which says the Penn. R. R. people will adopt the Maxim lamp. They put it on the ground that they require an arc light as well as an incandescent light. Please return it. It is marked 14, D.

HAVANA. Here is a letter from Rich which may interest you. Please return it. It is marked 14 E.

CLARKE'S PAY ROLL. Clarke still has five men on his pay roll under the head of street conductors. Their aggregate pay is \$59 a week. Two are working on the 28th. district and two are closing up the ends of the 1st. district, and one is a messenger who will be discharged next week. Clarke thinks we had better put the two men on the 1st. district at work on the 28th. district when they are through down town. I will do so, although we ought not to go to much expense in that district without first having formal consideration of the matter by our Board.

TRIUMPH OF RED TAPE. If your house burns down from bad wiring, it will not be because we have not had enough correspondence about it. I send you a package of correspondence about it. Please return it. It is marked 14 F. I have asked Vail to have the inspector visit your premises and let him say whether it is properly wired or not and I have asked Vail to be present at the inspection.

FREEMAN. Jobbins is hanging on to Lewis tenaciously. He is very anxious to have our Company buy Freeman's testimony and also at the same time buy Jobbins' dynamo and Jobbins' arc light. Lewis is trying to get Jobbins to show his hand and tell just how strong Freeman's case is. I rather think Jobbins will do so at least in part.

OUTSTANDING AMOUNTS DUE THE ISOLATED COMPANY. Here is a statement I have had prepared of the outstanding accounts due the Isolated Company for plants. I have had a talk with Twobbley about Vanderbilt. He says there is no use trying to see Vanderbilt at this season of the year. He hopes Vanderbilt will ultimately decide to keep the plant. The statement is marked 14 G. Please return it to me.

VENDOME HOTEL. I told ~~him~~ ^{Munroe} to order a spread some evening at the expense of the Isolated Company and to invite his friends of the press there that evening. He thought if they had a spread they would give a better account in the papers. You see it worked first rate. It is about the cheapest advertising we could possibly do. I send you a full set of papers.

Village Plants. As soon as the village plant is installed, Shaw wants to give us an order for one at Shamokin,

Pa. where gas sells at the nice little price of ten dollars per thousand.

FREEMAN AGAIN. Perhaps you would like to read this letter from Lewis giving an account of his interview with Jobbins. Please return it. It is marked 14 Mx H. I also send you Mr Lewis' report made to me in writing at my request, dated July 3rd. Please return it. It is marked 14 I.

EDISON'S ACCOUNT WITH EUROPEAN CO. Months are passing and I am yet without the statement of your account with the European Co. We cannot make up our account and get the money without it. The European Co. has no funds and we ought to get this money from Paris so as to have it ready for the next interest on bonds the 1st. of November. Besides that, Batchelor wrote us several months ago that if we did not send over our claim at once we might never get it paid. I hesitate to keep annoying you about this matter. Will you kindly tell me whether I may expect ever to get it, that is to say whether the reason why the account is not made up is that you think on the whole you will never make it up, or whether I may expect it at a very early day? Of course it is nothing to me. I have but a small interest in the European Co. and get no salary from it. Nor do I get any salary whatever or have any interest in the Ore Milling company although as regards the latter company I am \$1400, of cash, actual cash disbursements, out of pocket and there is no money in the treasury to reimburse me. I mention this to save myself from any criticism in your mind of being disposed to crowd this statement too often. My single desire in all this matter is simply to help your interests and help along the general cause as much as ~~my~~ possible. But if you wish me to abandon it and never

mention the question of the European account again, please say so and my lips will be sealed on it forever after. If your force is too busy to attend to this, let me say that Mr Meadowcroft is willing to do now what he has several times heretofore offered Mr Insull, namely, he will go out to Menlo Park and sit up all night or will go out there and work all day, to assist in making up the statement, if you desire it. However, please relieve me of any further embarrassment in the matter by telling me whether you desire me to drop this subject altogether, or whether I am to expect it at an early day?

MONDAY, JULY 17th, 1882.

ARC VERSUS INCANDESCENCE. At the Hotel Vendome they have now put several arc lights on the same engine that runs our lights. Munroe says they have brought the revolutions of our armature down to 1190 and our lights to only 12 candles. They think they must have an arc light for out door use, in front of the hotel. I am very sorry we have no arc light to furnish them with in connection with our system.

BULLETINS FOR ENGLAND. Goddard writes that Hammer wants more Bulletins. I believe that fifty are now sent over there from your office. I have not been sending any because I wished to save postage to the Light Company. I assume that the fifty which you send are paid with postage stamps other than those of the Light Company. I wish Hammer, and such people, who want the Bulletins would render me a little assistance about them. I got no news whatever from London. In my next Bulletin I do not think the London company will even be mentioned, as I believe I have not a single item of any description whatever to mention in connection with that company. It is very well for these people who want Bulletins, but I think they ought to give me some little assistance in getting them up. Batchelor has begun do do so. The items which Puskas & Bailey sent me were so slipshod and vague that I could not use them. But Batchelor is now sending me information concise and exact. I hand you Goddard's letter. I am surprised to hear that the London Co. has taken

the buildings in the rear of 57 Holborn Viaduct and will increase the plant. I do not like to mention it in the Bulletin on such slight authority as Goddard's brief mention in his note. However, I suppose you have heard nothing of the kind else you would have notified me. And I suppose Johnson has not heard of it. Is it true? Please return Goddard's letter. It is marked 17 A.

Thank Edg. mentioned something about it being their intention

THE 15 LIGHT DYNAMO. I think the 15 light dynamo is hardly a success. Here is a letter from Bliss which conveys the bad news that we have at least had one plant thrown out. It is all on account of the 15 light machine. Manager Moore tells me that he has just been running a 15 light machine at Roskelle in order to exhibit our light to the citizens there. He says the 15 light machine is a great failure there. Clarke also informs me that we can only get about 4 lamps per H. P. with the 15 light machine. I am very sorry we did not know these facts at the start. Please return Mr Bliss's letter. It is marked 17 B.

It was never considered a success by me. we intended modifying it. will do so.

THE PARIS BULLETIN. I am just in receipt of No. 1 of the Bulletin issued by the Continentale Co. at Paris. You will see that they make a pretty free use of my Bulletin in compiling it. In fact every article but one is taken from my Bulletin. Considering that they are doing a good deal of work themselves, I am rather surprised that they do not give us some news touching their own territory. Probably they will in future numbers.

• Bliss's Bill. Probably you may remember that Geo.

Bliss gave us an opinion last September about ~~xxxxxxxx~~ using our under ground conductors for telegraph and telephonic purposes. He has just sent me a bill for that opinion \$250. I will pay it and charge it to the Light Co.

WHAT THE EMPEROR OF BRAZIL THINKS. Here is an extract from a Brazilian paper which shows what the Emperor thinks of arc and incandescent lights. Please destroy after reading. It is marked C C.

COST OF LAMPS. Mt Kendall, In Chili, also Mr Stewart, write that if they are charged fifty cents for lamps, the price of the lamps delivered in Chili for use, Chilean money, will be, actual cost, \$1.25 per lamp. They think that is too high for popular use there. They think they cannot sell them under a profit of 10 per cent or so, which would bring the price there up to \$1.40. *and help that the lamps are costing us \$1.*

STEWART. Here is a letter from Stewart dated June 9th. I think you will take pleasure in reading it. Please return it. It is marked 17 C.

WORUMBO CO. The Worumbo Co. has decided to double its plant. They have tried our light two months and now want more of it. You remember that this company has the Maxim plant. This item is very gratifying.

OSBORNE'S SAFETY CATCH. Mr O. has invented a safety-match for chandeliers but will give it to the public and not take

any patent on it. He asked me to have one made for him. Of course we are only too glad to do whatever Osborne wants, so I have written a letter to Bergmann directing him to make at our expense a safety-catch under Mr Osborne's directions.

LONDON PAMPHLET. I am just in receipt of a pamphlet published by the London Company on the Edison electric light system. It is a very nice little document. I suppose they will send you copies by the same mail. If not I will send you one. I may make extracts from it for a future number of the Bulletin.

TUESDAY, JULY 19TH, 1882.

ANOTHER LIGHT COMPANY. Another company has just been formed called the Vanderweybe Electric Company for electric and telegraphic materials. Capital stock \$20,000.

CONNECTING HOUSES DOWN TOWN. We have issued a circular asking people whether they wish to be connected, and have received 51 replies, 1282 lamps, which includes most of the largest customers in the district up to noon of Tuesday July 18th. I enclose you a set of the circulars. Of course we shall supplement this by personal solicitation as soon as we exhaust the parties who reply to our circular. Osborne says he is very anxious to go over the down-town district with you personally and that when you come in town to stay at the central station he will be of great service to us if you will give him a little of your time and attention.

GERMANIA MILLS, HOLYOKE. It seems pretty sure that we will get an order from the Germania Mills for a plant. That will be a big thing for us in that locality. They have been exceedingly cautious and among other precautions which they have taken they have written to every insurance company that has any insurance on their works. We understand that they have decided to give us an order and that it will come in formal shape in a day or two.

PATENT LEGISLATION. My plan of calling a conference to consider the subject of patent legislation worked well. There was a good meeting and a committee of seven was appointed. One member of the committee was selected to represent the interests of the various ~~xxxx~~ electric light companies. That position was offered to me. I insisted on the President of the Gramme Company taking it, and he will doubtless be elected. Consequently Hazard will look after the interests of the Light Companies.

THE RECENT BRUSH PATENTS. Here is a letter from Borden dated July 14th. Please return it as I have not acknowledged it. It is marked 18 A.

19 a. 20a. 20B. 20C. 20D.

WEDNESDAY JULY 19TH. 1882.

TWO MORE ORDERS. Aitken, Sons & Co., dry goods men, Corner 18th. St. and Broadway, have ordered a Z dynamo. We have also received an order for a K dynamo and 350 10 candle power lamps to light a silk mill at Winsted, Conn. Thus the good

work goes on. *Look out about that 10 candle big we are not rigged up for them yet & they will cost not less than 50c the custom being so hair like & from Borden, dated July 17th. I do not know whether you care*

But breakage is so great to take the time to read such letters, but I send them to you because I think they will interest you. Do you want me to?

Please return it to me. *It is marked 19 A.*

THE QUESTION OF PUTTING SAFETY-CATCHES IN EVERY CHANDELLIER

AND BRACKET IS A SORRY ONE. The insurance people seem disposed to make us do it. It occurs to me that when we light up the old lamp factory at Menlo Park for the insurance people, or in other words when we get them out there to burn it down, that we had better make an effort to convert them on this question of safety-catches in every fixture. I have spoken to Clarke about it. Should you have any suggestions to make please let me know.

There is more danger with them in them but I think we permit to them to install too much and coming in

THURSDAY JULY 20TH. 1882.

Every day next week & will go for him

THE ITALIAN CONTRACT. The contract with the Italian Company was considered at a meeting of the Directors of the European Company at Cutting's office on May 6th. No action was taken

in view of Mr. Bailey's expected visit. I sent copies of the Italian contract to Foote and Banker also to yourself prior to that meeting. Like most of the papers received from Puskas and Bailey it is unintelligible. We can call a meeting of the Board of Directors and take a leap in the dark by authorizing Bailey to go ahead with it. Otherwise we must wait until he comes.

While you were away a cable came to you dated July 10th. from Milan. Mott sent me a copy. From that cable I supposed the contract had been actually signed by Bailey. Please express your views to me.

I think we shall have to take the leap ~~and~~.
RUSSELL DISCHARGED.

I have sent word to Mr Russell that we shall not need his services any further. I am very sorry to do this. He has not done any work for a long time, and I suppose I have done wrong to carry him on the pay-roll for several months past. I am ashamed to do it any longer and have sent notice to him that we do not need his services any longer.

I thought he was discharged long ago
PEARL STREET DISTRICT.

We must arrange the lighting of the Pearl Street District with some dramatic effect. Johnson and I have had some talk about it. We will talk the matter over with you when we get together. Up to 12 o'clock to-

day 75 consumers representing 1,595 lamps, made application to be connected.

Explain that the 75th of going to be all there every day
EXPERTS ON THE PEARL STREET STRUCTURE.

Here is a typewriter copy of the report of the experts on the Pearl Street structure. Please return it to me after you read it. It is marked 20 &

OUR LIGHT AGAINST GAS.

Here is a statement of coal consumption Clarke has prepared. Is it correct in the main? Can I publish it in the Bulletin after the next one? Please return

it. It is marked 20 B.

COST OF OUR ELECTRIC LIGHT.

The Baltimore people want some figures on the cost of our light. Of course it is a ~~minor~~ ^{matter} ~~we put~~ matter as ~~ourselves~~ ourselves in black and white. Here is a statement which Clarke has prepared for me to send to them. Will you kindly look it over and return it to me without delay as the Baltimore people are waiting for it. It is marked 20 G.

FALSE COMPLAINTS.

Herewith please find letter from Mr. Butler to yourself dated July 5th. Since you sent me the letter I have written Mr. Butler and called his attention to the fact that he had been written to already. He now replies that upon going to the Post Office he finds a letter. He sent us no address, just as he sent you no address in this letter, so we addressed him to Louisville. He ought either to give us his address or ought to go to the Post Office or ought not to make any complaint until he goes there. All of which is respectfully submitted.

COMPLAINTS AGAINST DEAN.

Still they come. I cannot act as judge between Dean and his accusers, because I have no authority whatever over him. But you have authority over all of us and we will bow to your judgment. So I send you the enclosed complaint against Dean which please return with any remarks you choose to make. It is marked 20 D.

21 B. 21-1. 21 C. 21-2

21.

FRIDAY, JULY 21st. 1892.

EDISON'S RESIDENCE. The point about wiring your house is that there is concealed work in it and that the Board of Underwriters have never yet made any rules for concealed work or even consented to pass it under any circumstances. The Mills Building was an exception. In that case they made a special examination and passed that building but without establishing a precedent.

My impression is that my house is well enough

9 Scientific articles

THEY COPY US. The Scientific American of July 22nd. contains my item verbatim on The Edison Lamp Company published in the 11th. Bulletin. They publish it as editorial without giving the Bulletin any credit for it. However, that does not matter so long as they keep the truth before the public. The Bulletin is more and more a success every day.

WILBER'S WORK

WILBER'S WORK. Here is a memo. from Wilber regarding the specifications which Dyer has this day told me he has been sending in here for the last two or three months. Dyer will explain this memo. to you. From this memo. it seems that Wilber has done better than Dyer supposed he had done.

BRUSH PATENT. Referring to your memo. of July 20th., which is herewith enclosed with a lot of other papers, please read Wilber's ~~memo~~ lengthy memo. of this date pinned on at the end of the bunch of papers and please give me your comments.

The papers are marked 21 B.

The several Brush uses of compound which are in use are useless as destructive to lamps

MY MEMO.ON SWAN LAMPS FOR BULLETIN. The only correc-

tion in the proof which you made was with reference to the men-
tion of the Canadian patent. I called Wilber's attention to the
matter to day and asked him for the reference to the U. S. or
English patent as you suggested. He sends me the enclosed memo.
in reply. It is marked 21 - 1 and need not be returned.

BOSTON INSTITUTE. Please look at 21 C and then return

it. Do we care to exhibit. I suppose not. *Yes*

BERGMANN'S PRICES. Here is what Bergmann has been

charging us on the following things net, that is the discount is
taken off: Pipe and flange \$1.18. Holder nine cents. Shade
eighteen cents. Here is what the same things cost us when we
buy them from other people: Three foot pipe fifteen cents.
Flange eight cents. Shade thirteen cents. Holder fourteen cents
That is a saving of one dollars. I am surprised at Bergmann
charging us such enormous prices on these things. I will call
Johnson's attention to it. By buying these things elsewhere than
at Bergmann's we saved over five hundred dollars on the King
Phillip Mill alone.

*Willie B
My list of 5
m 10/20*

ISOLATED CO'S STATEMENT. I hand you for your files

a statement made from the balance sheet of the Isolated Company
of June 30th. 1882. It shows that on a gross completed instal-
lation of \$132,340.84 there was a profit of only about thirty per
cent or a little less than \$40,000. But our profits now are

larger and average more than fifty per cent. Consequently we estimate a profit of fifty per cent on the work in progress so that the total profit, on that basis up to June 30th, is \$34,228.53. If the Isolated Company should wind up its business to day, and could realize on its material and accounts, it could pay back all its money and divide up about seven per cent on the half million of stock. The report which is for your files is marked 21 - 2

*Account
25th July 82*

FRIDAY, JULY 22ND, 1882.

Z-DYNAMOS. The Isolated Company is somewhat stirred up because the only Z-dynamos they can get are those with the old narrow track. It is the same old story. I tell the Isolated people that under all the circumstances they had better take them, although I do not justify Dean in his poorer workmanship.

THE MISSES EDSON. These two ladies called in to ask about progress. I had Meadowcroft take them to Goerck St. and Pearl St. They were very much interested and I hope they will not sell any of their stock.

BERGMANN'S HIGH CHARGES. I talked with Johnson about this last night. He says Bergmann has no system whatever of making charges, and charges enormous profits on some things and no profit at all on others, without judgment and without reason. Johnson will have the matter looked into so that I hope there will be no necessity of our taking any of the trade away from Bergmann.

THE ILL. CO'S EXPENSES AT MENDO PARK. I see the bill for labor at Menlo Park this week charges against the Ill. Co. is over \$45. Does that include Claudius' salary? I suppose we are hardly justified in carrying much of a pay roll for the Ill. Co. touching the 28th. district. That company at present has not one cent of money and I am giving Kruesi \$3,000 to day. I over-draw the account by kindness of D. M. & Co.

FIRES IN PHILA. The Sun of this morning has a letter from Phila. speaking about the fires there caused by the Maxim system. It is in Wyeth's store. They came very near throwing out the Maxim plant and taking ours. But the Maxim company has offered to do some free lunch business in the way of putting in new boilers, new wires and fixtures, so the Maxim lamp will stay. The Maxim people are ordering a lot of chandeliers for the Phila. depot for the Maxim lamps. I have spoken to Johnson about his taking hold of getting our lamps into the Phila. depot. The matter is already decided and I believe it was a foregone conclusion from the first. The officers of the company are interested in the Phila., Maxim company and they are bound to have that light anyway. But the reason they give for their decision is that they wish to deal with a company which has both arc and incandescent lights, as they require both kinds.

SOUTH CAROLINA. Mr Chandler, Pres. of the Fuller Co. is disappointed because the South Carolina people have decided against his light. That Company has decided to take the United States system because they have both an arc and incandescent light. I felt all the while the committee of two were here that Mr Mordecai, one of the, had made up his mind to adopt the United States lights in spite of all that could be done or said. I think Mr Mc. Cobe, the other member of the committee, was disposed to adopt ours. But the decision has been to adopt the United States, first, because they give low terms, and second, because they have both the arc and incandescent lights.

DAVENPORT, IOWA. We have a Davenport Daily paper which

states that they are talking about forming a company for the Edison light in that place.

LONG LIFE OF LAMPS. Our lamps in the Merrick mills at Holyoke, Mass. have been burning 722 hours with only five lamps burned out. There are 95 lamps in the plant. Pretty good.

BRAXIL. The indications are that the Legislature will give us some good legislation after all. Our plant has been taken out of the railway station and is about being sent to Buenos Ayres.

Mr HASTINGS. I am afraid his health is not robust enough for him to stand our work. His cough has been coming one again. His throat is so bad he cannot speak and he is going home to day to rest. Physical endurance is an important item in our business just at present.

THE TRIBUNE ARTICLES. Here is a letter from Michels which you may like to read. Please return it. It is marked 22 A. The Tribune people have thrown out all Michels' introduction wherein he set forth the details of his visit to our works, &c. They also directed him to enlarge the notice which he gives to the U. S. Co., and I am not sure but what they told him to cut our notice down a little. This letter of Mr. Michels is a reply to a pretty forked letter which I wrote him complaining of the above things. You see he takes it very gentlemanly. The Tribune people are going to give the best notice to the company.

that pays the most money. The only money we have spent is to order one thousand copies of the paper, forty dollars. Even that is waste money, as I do not care to send to our stockholders notices of what other people have done. Possibly the notices of the companies may be split up, and part printed one day and the rest another day. In that case it may leave our article in such company that I may be willing to send it to our stockholders.

THE NEXT BULLETIN. The Italian School have made a sad mess of the next Bulletin. They have taken so many days and have blundered so much that I can stand it no longer. I shall take the job out of their hands and give it to Burgoyne. Were it not for these blunders ~~for~~ by the printers the Bulletin would have been out to day.

CANADA EXHIBITION. Johnson says you do not think highly of his going to Montreal to speak before the Scientific Society. The importance of his doing so relates chiefly to our bringing a company out there. We have never shown our light in Canada while others have shown theirs. The people there know very little about our light or our system. The stock in our Canadian ^{C.} will probably not go like hot cakes and if we can make it go a little quicker and easier by using the Scientific Society to introduce the details of our system to the knowledge of the Canadian people, it would seem to be a good thing from a business standpoint. I have obtained an opinion from a Canadian lawyer as to whether we can send our apparatus there without invalidating our patents. He thinks we can. But I am not entirely satisfied with the matter. I have accordingly written to the Department of Agriculture to see

if they have the power and the willingness to grant us a special permit.

NEWSPAPERS. The Post had a pretty good article on us Thursday night. The World has one this morning, but it is pretty full of blunders. On the whole however it will make a good impression on the ignorance of the average reader.

Give a brief with the wiring of my house. I will show what they want to know.

THE WIRING OF YOUR HOUSE AGAIN. Here is a conundrum from Vail about the wiring of your house. Will you please state when it would be least inconvenient for your family to have their house inspected. Then we must try to get the inspector to go there at that time. The enclosed memo. from Vail marked 2241 shows what they want to know.

SECONDARY BATTERIES. You ask how soon I shall want your memo. on the secondary batteries. I should like it any time next week if agreeable to you. I have several things to add to it and I will then have it put in type and send you a copy. We will then determine to put it in the Bulletin.

ENGLISH MENDACITY. For good straight lying commend me to the London Journal of Gas Lighting. See their issue of May 30th, page 972 where they go for Johnson. Their issue of May 9th, page 837 is not much better.

and release
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TUESDAY, JULY, 25TH. 1882.

ELECTRIC RAILWAY. Young Mr. Dickerson told me this morning that Mr. Daft, the electrician, has a small railway running at Greenville with good ~~results~~ results. Daft is now building a dynamo to be put on the 34th. St. branch of the Elevated Railroad. It will be known as the Daft Electric Railroad.

THE DAFT LAMP. Dickerson says the Daft lamp is not yet ready. Dickerson brought in to me to day a scheme for our Company getting control of the Wave Power Co. which will get power by utilizing the waves of the ocean. It strikes me as about as impracticable a thing as I have yet had shown to me. Young Dickerson does not seem to be very solid in the class of enterprises he eulogizes.

WILBER'S REPORTS. Wilber has made an itemized memo of the history and present status of every case we now have in the Patent Office, bringing the same down to date. This is the result of my punching him so frequently of late. He promises to make his reports regularly every week after this.

CHICAGO. The Supt. of the Fire Alarm of Chicago has been in to day with a letter to me from Norman Williams. He is accompanied by a friend of Gen. Stager. Meadowcroft has taken them to see the various factories and central station. It is important for us to make a friend of the Supt. I will see that we succeed.

MOORE'S TRIP. Mr Moore has just returned from a trip to St. Johnsbury, to Boston and to Fall River. Our plant in the Vendome Hoj'al was out of order. Moore fixed it up by the simple device of tightening a belt. Queer that nobody thought of that! The plant at St. Johnsbury was out of order. Moore fixed that up by putting a regulator on the water wheel. They were ashamed of themselves that they had not thought of that.

VILLAGE PLANTS. Moore wishes to confer with you about certain details of the village plant. He thinks we can put it in for even less money than your estimate. If you are in town within the next two or three days please send me word and Moore and I will meet you somewhere.

CANADIAN COMPANY. Mr Lowrey writes me that Mr Swinyard will write me a letter about the proposed Canadian Co. I rather think that the capital of one million is too much for Canada. I hear nothing from the Baltimore Co. They have our form of contract and I suppose they have it under consideration. Regarding Lawrence I have also sent their contract to them and I expect to hear from them in a few days. Ladd writes from San Francisco that as soon as he gets our estimates of cost of plant he will ask his friends to subscribe, but that he must have exact figures to show them before he can invite subscriptions. I will attend to it.

*Have you made estimate
for Lawrence. would like a
copy - We could give Ladd
figures in few day*

LAWRENCE CO. I have received a letter this morning from the President of the Lawrence Co. He says the Secty. of the Company will visit me early next week and will bring on in person the views of the Directors of the Lawrence Co. touching the proposed contract between that Co. and our Co.; heretofere mailed to them by me

PATENT LEGISLATION. The Committee made up of various large patent interests to take charge of the business of patent legislation is getting into working order. My suggestion to have Hazard represent the various electric light companies on the Committee was adopted. He reports to me by letter what progress is being made. So far I am quite well satisfied with what has been done.

COST OF MANUFACTURE. In connection with proposed mfg. in Canada Mr Hearle made inquiries of leading Canadian mfrs. as to how they made up their profits on manufacture. It seems that they first take the cost of material. To this they add the actual cost of wages. To the aggregate of these two amounts they add 20 per centum of such aggregate for depreciation, rent, insurance, interest, superintendence &c. Those three things constitute the cost. On the gross amount derived from adding those three things together, they put the profit which is usually a profit of 20 per cent. I mention all this to you for your general information thinking you may have some interest in knowing how they do things in Canada.

THE MISSES EDSON. Miss Mary Edson has written me a note stating her gratification at being shown the Goerck St. shops and the Pearl St. station and itemizing the various things which particularly impressed her. I think the letter will interest you so I enclose it. Please return it. It is marked 25 A.

CHICAGO. Mr. Barrett, Supt. of the Chicago Fire Alarm system spent last evening with me. He had with him Mr. Firman, of Chicago. Nothing can be done in electric matters in the streets of Chicago without the approval of Mr. Barrett. Mr. Meadowcroft took both of these men to see our various workshops yesterday and I spent the evening with them here. I am very sure they went away fully enthused.

COMPLAINTS AGAINST GOERCK ST. AGAIN. Would it be certain death to me if I should file an additional complaint against Goerck St. ? Here is one just received from Vail and Moore. Please return the same to me with such comments as you may wish to make. It is marked 25, B.

YOUR ORE MILLING & EUROPEAN STOCKS. I have written the Farmers Loan & Trust Company asking them to give me a list of all your holdings of stock in the Ore Milling and European Cos.

A STATEMENT FROM WILBER AT LAST. I have just succeeded in getting a full statement from Wilber of the present standing

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of every case now in the Patent Office. I send it to you here-
with. It is a document of 10 pages of legal cap, besides a letter
of three pages of letter sheets. Will you please have it care-
fully examined and return it to me. I wish to check off my re-
cords in connection with it and must therefore have it back in
the course of a week or two. It is marked 25-C.

Handwritten notes:
C
M
N
S

GAS ENGINES. Thomson, Stern & Co. Glasgow report to
the London Co. that they have had a satisfactory trial of the
Clark Gas Engine. I hope that will work. If so it will be a
matter of very great interest to us.

WEDNESDAY, JULY 26TH, 1892.

A CHICAGO PLANT. Mr Doane has ordered a 250 A light dynamo to light his residence in Chicago and to furnish light to the residences of a few of his neighbors, notably Marsall Field and the two Keiths. Mr N. K. Fairbanks has given an order for a 60 light machine for his house.

INTERFERENCES. Here is a report from Wilber dated July 26th, about interferences to date. Will you kindly have the same returned to me in a few days if possible, with such suggestions as you may see fit to make. The document is marked A. W.

ANOTHER PLANT. The Pottstown Iron Co. have just ordered a 60 light experimental plant through Mr Hoskin.

SANTIAGO. Stewart writes that they had great trouble to get consent to locate their steam boilers in Santiago. They finally got it by purchasing a house from an influential citizen for the station. The building is large and handsome, and lies within 250 feet from the centre of the city. Stewart expects to get permission from the city to lay the street mains, but is obliged to pledge the company that the price for our light shall not exceed \$4 per thousand feet and that the city shall have a reduction of one quarter on this. There are 60,000 gas jets in the city besides a large number of Kerosene lamps.

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THURSDAY, JULY 27th, 1882.

DAET'S RAILWAY. I saw a man to-day who has seen
Daet's electric railway. It patters out a good deal of
stories about his lamp here. This man tells me that the rail-
road is 150 feet long and a foot wide and that the rails are toy
rails sometimes used by children. Can this really be so? This
is the railroad which Dickerson spoke to me about with so much
enthusiasm, which he says they are going to put on the 34th. st.
branch of the Elevated railroad.

BORDEN'S LETTER. Referring to Mr. Borden's letter of
July 14th. and your reply to that of July 20th. I hand you here
with a note from Wilber dated July 18th. also another brief note
dated July 21st. and an opinion from Wilber touching the point
raised by Mr. Borden as to whether Brush's invention is or is not
multiple arc, said statement being dated July 21st. The whole
package is marked '28 A. Please return the same with your views
on Wilber's opinion.

MOSES. The following is a copy of a letter I have this
day addressed Dr. Moses. It speaks for itself.

"Dr. O. A. Moses,
City,

Dear Sir:-

In reply to your question whether you had better go
ahead and take out your patents on the arc light without delaying
any longer for Mr. Edison to announce an opinion as to whether our

Board had better make an exclusive contract with you as proposed, I beg to say that I think it is for the interest of both you and ourselves that you should at once file your applications for patents. We will prepare the applications for you, file them and take charge of them in the Patent Office, ourselves paying all the expenses, pending the future decision of the question as to what contract, if any, of a permanent nature, our Company shall make with you. If we should ultimately decide not to make any such permanent contract with you, it is agreed that you shall have the privilege to withdraw said applications for patents upon reimbursing us our expense in the matter, and if there is any question as to what that expense is it shall be left to arbitration. It is further understood, that if at any time we desire to cease taking charge of the applications and patents, we shall be at liberty to notify you of the same and in such case we shall be free from all responsibility touching the same within a reasonable time after such notification.

In case we should at any time cease to take charge of the applications and patents as above suggested, and shall notify you as above set forth, we will deliver the same to you in their then state upon being reimbursed by you our actual cash outlay.

Very truly yours,

The Edison Electric Light Company

by

S. B. Eaton

Vice President.

Mr. Clarke tells me that he sent to you this morning the estimates for San Francisco. Lund is waiting for these and

4

we can get our money from him within ten days after he gets them.
I am sorry to crowd you in this hot weather but I wish very much
you would give these estimates your immediate attention and send
them back without any delay.

Regarding the management of details by Moore and Vail
in the Isolated C company, I have just sent a letter to each one
of the agents of the Isolated Company asking for criticisms and
suggestions. I have worded the letter in such a way as to make
each agent free to answer without reserve and I have notified
each agent that I have sent similar letters asking for similar
expressions of opinion about all other agents of the company.
If what you say about the management of the men and the filling
of orders touching the wiring of your house is borne out by the
experience of others, I will give the matter early and vigorous
attention.

CIRCULATION OF BULLETINS. We now mail about 1200
Bulletins to about 1250 first class parties. To some of our
agents we send a large number of extra copies so that our entire
output is at present about 1565. The names to whom we send are
carefully selected and I suppose very Bulletin gets into the hands
of a first class man. I think this is the only advertising we
need do.

CHICAGO. I wrote Bliss the first of the week as I
suggested asking if the Chicago Co. would not give you an order
for dynamos. I am this morning in receipt of a telegram from him
stating ~~stating~~ that they have forwarded by mail an order for

EX324

5

\$28000 worth of dynamos at the discount named. That is good.

MOORE AGAIN. It never rains but it pours. Hoskin has written a letter of complaint involving the question of detail management on which he and Moore are at war. Hoskin is right and he is wrong. As I have often told you I regard Moore so valuable as an engineer that I think the interests of the company are on the whole subserved by retaining him where he is. But I am going to have a talk with him about it and see if he will be willing to accept a salary simply as an engineer. In all these matters I move very slowly as it is much more easy to get rid of a pretty good man than to get a pretty good man in his place. But I feel independent just now in view of my interview with Borden yesterday. Please answer me this question. Suppose I should ask Moore to accept the position of engineer and suppose he should say that unless he could be the general manager of the company or would leave it altogether, suppose he were to leave and I were to get Borden to take his place, would the company on the whole gain or lose? What is your view about this? Please keep this matter very confidential as it is not fair to Mr Moore to let it be talked about.

*Will see you about Moore's
formally*

Regarding the Mechanics Fair at Boston, I have written the manager of the fair to communicate with Borden and have written Borden also. I think that the parent and the Isolated Co. should divide the expense equally, and that we should make a first class show

*if we buy all necessary but Isolated
alone should pay*

THE MOSES ARC LAMP. Dr Moses has been in to see me

each day for three days. He says that he has stopped experimenting and that he requires is for you to inspect it. He say if you

will give him time enough to inspect the lamp he has no doubt you will write me a letter approving of it, and that the Company can

go ahead and make the proposed contract with Moses. *He don't think he has got it to work on multiple arc he has*

PRICES. *Simply an arc lamp* A curious fact has come out in the course

of the friendly war ~~xxx~~ now existing between the Isolated Co.

and Bergmann on prices. Johnson writes me that he has disco-

vered from our correspondence ~~xx~~ that the Isolated company gets

a discount of 40 per cent on some articles upon which Bergmann

gets a discount of only 40 per cent. This is the same question

that our Isolated company had in Goerck St. The Isolated com-

pany seems to get lower prices in a few instances than other

people. Probably if all the facts were know it would be found

that the Isolated Co. pay higher prices also in some cases. But

no instance of that kind has come to light yet.

BUENOS AYRES. The Weston arc light has been started

in a public square in that city. An agent of the Brush company

has also arrived there and offred to light up a portion of the

principal streets at his own expense. Our Rio plant is on its way

there and will soon be set up under the auspices of the corres-

pondents of Messrs Fabbri & Chauncey, Messrs Sassenberg & Co.

*Answered
2-10-1922*

TUESDAY, XXIX AUGUST LST, 1882.

WILBER'S WEEKLY REPORT. Please enclosed find Wilber's report for last week. Please return it. It is marked 31 A.

VILLAGE PLANT. I have asked Meadowcroft to send you a copy of your estimates on village plants. It was copied in the minutes of the Light Company when the vote was passed authorizing the Light Company to pay for half the village plant.

Cost of wiring your house. I have investigated the matter of wiring your house. You told me it was over \$1900 and that the men lost two ~~days~~ weeks time by waiting for material. It seems that the labor cost \$200, the wiring \$40, and general expenses \$100 more, and sundry materials about \$50, making a total of about \$400. The time of the two men is also given to me in a report which I enclose. The Isolated Company make out a pretty good case in answer to your criticism. Please return me the report. It is marked 31 B.

SUPPLY DEPT. REPORT. Here is Mr Pike's regular monthly report to me of stock on hand in the Supply Dept. Perhaps you may like to look it over and possibly you may have some suggestions to make. Accordingly I hand it to you. It is marked 31 C. Please return it to me.

LETTER FROM MORTON. Here is a letter from Prof. Morton. Please tell me what answer I shall make to him in reply to the

second page in his letter which I have marked A and B. Please return his letter. It is marked 1 A.

ISOLATED COMPANY. We decided to day to call in twenty cents more on Isolated stock at once. We shall probably make it payable August 14th. This puts us in funds so as to give you an order for dynamos so as to secure the discount.

CHICAGO ORDER. I have written and telegraphed Bliss that you will not accept the order he has sent and that he must make it for K and L dynamos exclusively and that they must amount to well on to \$30,000 otherwise you will not take the order. I believe Bliss leaves for New York tomorrow night on general matters

ters

He has no longer so you do not have to worry about it

MOSES ARC LAMP. Moses tells me that his arc lamp will run on multiple arc provided two lamps are put in series. That would not be a very serious objection practically.

CHICAGO CO. The Light Co. received the first payment from the Chicago Co. yesterday, being a check for \$25,000. Unfortunately the indebtedness of the Light Company is so large that this money will not last long.

BANK BALANCES. The account of the Ill. Co. is now \$12,000 overdrawn. The Isolated Co. has \$5,000 in bank.

CANADA. Let me call your attention to the following memo? I have this day received from Mr Howell in Canada.

"As far as I know you will find the lamps made here the same in every respect as those made at Newark as regards economy and light &c. and every thing is all ready except the sockets (plaster ones on lamps) and I have not received the machine for finishing them yet. It was ordered some time ago but cannot get any word about it. I think another letter from your Company will turn them up either the Lamp Co. or Mr Logan at Menlo Park. It is called a "Socket turning machine."

I do not understand about this. Please tell me what shall be done?

W. B. Dyer

Mr CARD. He is not a successful canvasser. He does not get an orders and I hardly think people cotton to him. It is said that a good many people avoid him all they can. However, we must remember that there may be other reasons why we should retain him in our employ, aside from his ability to sell goods. Please give me your views on the question whether the isolated company had better put a better man in his place, or whether they had better retain Mr Card, even admitting that he is not a successful salesman?

Card talks too much. I think he should be provided with a second ball which I think myself more than enough to use or be kept in some special class such as Coal mines

WILBER MATTER. Now that I have suspended Wilber, there is no objection to Dyer examining all the records. He can remove or mine out what say Coleridge - such of them to Menlo Park, pursuant to his request, as belongs to our Company. I think that we ought to give Wilber a chance to answer the charges against him, but our business must not suffer meantime. It is a most unfortunate and disgraceful matter.

TUESDAY, AUGUST 8TH. 1882.

Major Wilber. Wilber has been avoiding me for two or three days, but I finally succeeded in getting hold of him to day. Mr Banker happened to be in my office and the interview with Wilber took place in his presence. Wilber is making up his account with the Company and claims that although his defalcation amounts to \$1300 the amount actually due by him in order to make it good will only be about 7 or 800. He says he took the money intending to replace it and that if I had not crowded him so hard for that report wherein he committed himself to a false statement he would have repaid it, filed the cases and nothing would have been known about it. He says he feels very badly for having lied to me so squarely, but says I put him in such a tight place that he was obliged either to do it or to confess. He makes some criticism on Mr Dyer's report and makes some counter charges against Col. Dyer. But I do not think it necessary to mention these things as they have nothing to do with Wilber's own misconduct. He promises to hand me the money to make his defalcation good by August 15th. I have promised to let the matter stand just where it is until that time. He claims that the papers which were removed to Menlo Park belong to him and not to the Company. I took issue with him on that and I understood him to say that he would leave that matter to me to be dealt with as might seem to me fair. He says he would not under any circumstances go into the employ of any rival company and that whatever treatment he may hereafter receive from our Company, we may rest assured that he will never do anything whatever to injure us.

VERY-BUSY. My mail is a good many days behind. I am occupied with interviews all day and it seems very hard for me to bring my work up after being absent three days in Canada. I wish I had a competent assistant in the Secretary's office. By this I do not mean I wish Col. Goddard was here. When he is here his assistance is very meagre. What I mean is that I wish I had a live, active, hardworking Secretary who could and would take a great deal of minor work off from my shoulders. As it is now my days are very busy, notwithstanding the heat, and I have not yet been able to catch up with my work which got behind while I was in Canada.

BORDEN'S NEW ENGLAND AGENCY. I telegraphed Borden to come on to discuss the New England agency at Boston. He and Paine have been here nearly all day to day. They will not take up the responsibility of giving up what they now have except we make them a very tempting offer. The result of our conversation I embodied in a memo., copy of which I send you herewith. The terms are pretty high, but they are probably the best Borden and Paine will do. This memo. does not bind either party. It is only the result of a conversation and was put in writing in order to afford both of us a basis for discussion. Borden has already sold \$45,000 in dynamos alone. He has done nearly half the business of the Isolated Co. He thinks he could easily sell 4 or \$500,000 in dynamos within a year if he had the New England agency. Paine has just been offered the charge of a large mill on a salary of \$3,000 and they will probably offer him \$4,000 rather than give him up. The Bleachery pays Borden a salary of \$4,000 and they

will probably give him 6 or \$8,000 rather than give him up. They are both good men and will not come to us unless we pay them handsomely. I am not prepared at present to express any opinion on the memo. now submitted. I wish to do some careful figuring before I make up my mind. If the arrangement should be made with Borden is there any reason why the Isolated Co. should not bear the entire expense of \$18,000? Yet that is a very large fixed indebtedness running for a series of years for that company to assume. Is it wiser to make such an arrangement with Borden now, or to wait until after another winter shall have passed? If we wait we take the risk of losing Paine, who is fully as good, and in many respects a better man than Borden. Under our present arrangement with Borden and Paine, we give them ten per cent on dynamos. Under this new arrangement this is brought down to five per cent. But we now pay them a salary in addition to the five per cent, where we paid them no salary before. They think their percentage on their present business alone will amount to \$20,000 the first year. But after the first year they would have to seek new fields in order to keep up such income. Please return me the memo. with your views. It is marked B-A.

THE MECHANIC'S FAIR EXHIBIT AT BOSTON. Moore does not favor our exhibiting at the Mechanic's Fair at Boston. But I have decided to do it and have ordered it done. Borden and Paine will take charge of it without any compensation, but we must pay their cash expenses. Babcock & Wilcox will furnish a boiler, and Ar-mington & Sims will furnish two engines, the Fair people will furnish coals and engineer, so that our power will cost us ab-

solutely nothing. We must furnish the dynamos, also a man to run them, also the wiring and fixtures, also a man to stay in the office assigned to us to explain the system. We shall probably light one of the Art galleries, also the restaurant, also the offices of the officials, and Paine will light all the looms and spinning frames just as he does in a factory so that manufacturers can see just how the thing works practically. The worst feature about the whole thing is that this work must all be done before September 6th. Mr Vail and Mr Paine go to Boston tonight to make preliminary arrangements.

BALTIMORE. The terms which we offered to the Baltimore people have discouraged them. The estimate on profits which we submitted to them have also proved unsatisfactory. Gas sells there for one dollars, and there is talk in the newspapers about the price being reduced to fifty cents. They admit the superiority of our light, and think they could get more for it than gas. But as prudent business men they do not care to venture their money on such an uncertainty, so they say. The two leading capitalists have accordingly withdrawn from the promoters arrangement. I am giving the remaining promoters sufficient time to see if they can replace these two parties with two other equally good men.

CINCINNATI. Mr Stuart, who was recently brought here by Shaw was with me a good part of yesterday. He brought a letter from Theodore Cook. Mr Cook has formed a union with Shaw's friends in Cincinnati, and Cook sends Stuart here to get our terms, estimates &c. for a Cincinnati Co. I have prepared a proposition

including contract, terms &c., based largely on the Chicago plan. I hope it will not frighten them off as it has frightened the Baltimore people. Thus far I have succeeded in making a complete enthusiast of Mr. Stuart. How he will feel when he gets home and looks over the estimates and figures in the cold gray morning I cannot tell. But I think our chances are much better than with the Baltimore people. Certainly gas is much higher in Cincinnati. I consider it a great compliment to Shaw that Cook should have allied himself with Shaw's syndicate. Not only did Cook do that, but he accepted every Cincinnati member of the syndicate, and added only one name to them. He said they were identically the same men that he would have brought in himself. Pretty good for Shaw. But Cook leaves out Shaw and his friend Detwiler, who is a townsman of Shaw. He says they do not need any carpet baggers to pay a commission to. Poor Shaw has been in to see me about it and behaves as handsomely as can be. He directs me to scratch his name out wherever it interferes with our prospects.

LONDON. Johnson told me what his letter said which he received from London this morning. Matters look worse and worse over there. I am surprised that the Directors of the Manchester company should allow their shares upon which two pounds have been paid to be offered for five shillings. I am also surprised that the dignified body of Directors of the Manchester Co. should proceed in a body to London and compel the London company to cancel half the cash payment and to spread the payment of the other half over a period of two years. Do you not think this all arises from the manner in which the Brush business has been handled in England? Doubtless our inability to compete in prices with other

dynamo has hurt us a good deal, but do you not think the principal difficulty has arisen from the distrust created by the bursting of the Brush bubble? I have enough to do to take care of things that I have charge of, so I suppose I ought not to worry myself over this London matter. Still I gather wisdom and learn lessons from all these experiences, and I cannot help thinking and talking about it.

FREEMAN. Did you see what purported to be a telegram in yesterday's Tribune from Racine, Wis. about Freeman suing us in the next term of the U. S. Court there? A Times reporter interviewed me on it yesterday. They did not publish my interview this morning. I am sorry. I said what would correct any wrong impression that might arise from Yesterday's Tribune.

THE HEAT. Talk about hot places. My office is the hottest place I know of. The heat both yesterday and to day has been great. I feel like a rag.

WEDNESDAY, AUGUST 9TH, 1892.

BOSTON HERALD. The Boston Daily Herald, the largest newspaper of New England, has ordered a plant of two 2 dynamos and 10 candle power lamps

Use our next issue for 10 candle power lamps but 8 candle power lamps is long as we can't make them in 10 candle power lamps + have more

More for small towns with high Res are very hard to make

10 CANDLE POWER LAMPS. What do you think about introducing 10 candle power lamps? Are they more difficult to manufacture than 8 candle lamps? Do you want us to crowd them into use wherever we can as against either 8 or 16 candle power lamps? Please give me your views.

should not use the high res 10 C on isolated for some time

to We can make them but at 60¢ the price is too high + use of them in Massachusetts

THAT SAWYER-MANN DECISION. Do you remember the queer story you told me about the Sawyer-Mann decision by the Commissioner of Patents? You know I told you at the time that I thought it could not be true and that the man who told you the story, I have not the slightest idea of who he was, had evidently some little axe to grind and was making out a nice story to benefit himself. The story as you told it to me was that the Commissioner of Patents had originally decided the case against us, but that your informant had a private talk with him and induced him to change his decision. Also that the Commissioner had received certain affidavits (which had helped him to decide against us) after the case was closed. As this story if true would indicate that the Commissioner of Patents is unfit for his place and would be a most dangerous man to act as judge, I have taken the trouble to investigate the story. As regards the filing of affi-

davits after our case was closed that statement is untrue. I have had the affidavits in the case overhauled, also the records in the Patent Office examined, and no such affidavits have ever been filed. Not only that, but it would be violative of all judicial decency if the Commissioner should allow affidavits to be filed after the case was closed and should use them in forming his decision, without giving the other side notice. When a man tells you a story like that never believe him, unless you know the judicial officer is utterly unfit for his place. As regards the other branch of the story, that the Commissioner had at first decided against us and was afterwards induced to change his decision by a conference with a friend of Edison not a counsel in the case, I am satisfied from a recent talk I have had with Col Dyer, also with Major Wilber, also from the general reputation of the Commissioner of Patents, that such a statement is and must be false. Col. Dyer himself had a conversation with the Commissioner a few days before the decision was announced. He simply asked him when he would decide the case. The Commissioner stated that he had written his opinion himself and he gave Col. Dyer to understand that he had made no change in the substance of it since he first made up his mind.

I have gone into this matter pretty thoroughly as the charge made by your informant ~~xx~~ against the Commissioner of Patents is about as serious a one to our interests as could be made. If the Commissioner will receive affidavits and decide a case on them after the case is closed and without notifying the other side, he is about as dangerous a man as could sit on the Bench. Again,

if having made up his mind he will tell an outside party what his decision is and allow such outside party, a friend or one of the contestants, to influence him to change his decision, he is even more unfit to sit on a bench than in the other instance. I do not know who the man is who has thus attempted to ruin the judicial reputation of the Commissioner of Patents in our estimation. The next time you see him I wish you would follow the matter up a little more closely, for if there is any truth in his statements, we must consider the question whether it does not present a state of facts sufficiently serious to make it worth while for us to bring the matter to the attention of high authorities.

MEXICO. I enclose a memo. of agreement received from Mr. E. G. Fabri touching the working of our business in Mexico. I enclose a copy for your files. Please give me your views about it.

EUROPEAN ACCOUNT. Referring again to this old item of the European account, I was promised a statement of the account by the end of week before last. Banker was in yesterday and manifested a good deal of impatience that I had not been able to procure it by this time. I dislike to trouble you again about it but let me urge upon you the importance of giving it early attention.

CINCINNATI. I enclose a copy of the proposed contract with Cincinnati, the promoters contract. It has already been send to them. It is marked D. J.

THE FIELD INTERFERENCE. I hand you herewith a report of Col. Dyer dated August 7th, about the Field interference. It is marked G-A. Please return it. It seems testimony will be taken in September in San Francisco, and that the attorneys of both Field and Siemens will be there in person. It will be a heavy expense for us to send any one out there. Is it necessary for us to do so? When I made my arrangement with Wilber to work on a yearly salary I intended that he should take testimony in this class of cases, calling in outside lawyers in emergencies. If we send Col. Dyer we shall have to pay his expenses and pay him forty dollars a day from the time he leaves home until he returns home. Please give me your views.

*Get an attorney
to take charge
of the case
and
advise
me
on
this
matter*

On the fourth page of the same letter please note suggestion about the foreign interrogatories. I have requested Col. Dyer to prepare cross interrogatories and to take charge of that portion of the matter as discussed on page 4 of his letter.

CANADIAN EXTENSIONS. There were two patents to be worked in Canada in July. Swinyard sent word that he had got them both extended. One was the lamp patent, and we worked it although Swinyard got an extension. The other was the system patent. We did not work that. The extension has never been endorsed on our patent, for the reason that no patent was ever issued. The patent was allowed but not issued, because a model was never filed. I am told that this omission to file a model was an omission responsibility for which rests somewhere between you and Serrell. Mr. Lowrey told me last week that he would have Swinyard get some paper if possible from Ottawa showing that the extension for

working had been granted, in order that we may have something on record to that effect. Doubtless Mr Lowrey has already given the matter his attention.

W. H. M. SCOTT
COOPER UNION. Mr Peter Cooper sends word that the man

whom he says you sent to see if the Cooper Union could be wired and lighted has reported that it cannot be done. I have not heard of this matter before and do not know what you did about it.

Will you kindly inform me?

BULLETINS. The Bulletin continues to be a success.

9
 The librarians of the N. Y. state library has written for a complete set to put on file in the State Library. A newspaper called the Sanitary Engineer of this city has also written for a complete set. They say they wish to quote from it occasionally.

23
 Judge Noah Davis was in to day and ventured the remark that the Bulletin kept him so well informed he felt he knew what was going on and he said the Bulletin was a perfect thing of its kind, using a good many adjectives in describing the Bulletin which pleased me. Painter has sent for some more Bulletins for his friends. He says the Bulletin helps the good cause. I notice a good many items taken verbatim from the Bulletin going the rounds of the press from time to time. Hurrah for the Bulletin!

STEAMSHIP PILGRIM. Borden commenced work on getting the order to light the steamship Pilgrim. Moore has taken it out of his hands and is running it himself. Borden's commissions would amount to \$1,000 or so, and I do not like to overrule

Moore and direct him to turn the matter over to Borden. However I will have a talk with Moore about it. The Maxim people are trying very hard to get the order, and I think we ought to get it on general principles ourselves.

STEAMSHIP PILGRIM AGAIN. Your memo. from Goerck St.

about the Pilgrim is just at hand. We have been working on this steamer for several months. Borden has done most of the work and has seen Mr Choate several times. Choate and some of his friends will be here in a few days. The steamer is owned partly by Borden's relatives. The trouble is that Moore thinks we are certain of the order, that we can get it just as well from this office as Borden can from Fall River, and that there is no use in allowing Borden to get it and pay him a commission of 10 per cent on the dynamos. As soon as Moore gets back from Phila. and Wilmington, tomorrow, I shall see how certain he is of getting the order and I may direct him to, turn the whole thing over to Borden where the chances are the order will be safer than in any other hands.

*Moore
should be
sent by
memo*

FREEMAN MATTER. Mr Fabbri is making inquiries of me

about the Freeman matter. He says that over three months ago he handed some papers in the case, upon the suggestion of Mr Lowrey, to Mr Dickerson. Among the papers was the opinion of Gen. Duncan. Mr Fabbri says he has heard nothing about the matter since. I know nothing whatever about it. Do you?

no

MR ANDERSON'S WISH. Mr William A. Anderson, of the

at Central station any day
He will start 1 or 2 up for
him & friends

He can see
Board of Underwriters, wishes to know when you will be running a big dynamo at the central station some evening. He wants to go there and see it run. He proposes I believe to take some insurance people there with him. Perhaps if you will fix some hour on some particular day he will go there to see it in the day time just as well. Please reply.

W
COAL CONSUMPTION. Here is Clarke's memo. on coal consumption, as perfected. What do you think about my printing it in the Bulletin. The article has been already corrected by you I believe. Have you any objections to my printing it in the Bulletin? Please return it with your answer. It is marked 9 B. In order that you may see that your corrections have been made I hand you herewith the copy as corrected by yourself. It is marked A. B. C. Please do not take the trouble to return A. B. C.

BULLETINS. I have a list of 150 cities of the U. S. having a population of over 25,000 each. We send no Bulletins to speak of to any one of those cities (the list does not include N.Y. Phila. &c.) What do you say to my sending say 3,000 Bulletins to leading capitalists in these 150 cities. The postage on a Bulletin is one cent. Every number of the Bulletin is electrotyped. The present cost of getting up a Bulletin at the Italian school is as follows. The first 1,000 copies cost us \$3.75 a page. We then electotype them and that costs us 60 cents a page. After that it costs us for any number of additional Bulletins, no matter how many, one mil and a half a page, or about six pages for a cent. Take the 12th, Bulletin for

example, which has more pages than any Bulletin I have yet written, There are 20 pages in it. It would cost us about 4 cents per Bulletin to print a new lot, pay the postage, and put them in the hands of parties through the country. We spend no money for advertising, so I feel disposed to spend a good deal of money in circulating the Bulletin. Do you think it worth while for me to carry out the plan above proposed of sending copies to say 20 leading people in 150 cities? I should send them beginning possibly with the 11th. Bulletin and send all future numbers after that. What do you say?

By all means send the bulletins

*J. J. Smith
- 6406 7 2 98*

Handwritten notes at the top of the page, including the number '2' and some illegible scribbles.

Main body of handwritten text, appearing to be a letter or report. The text is mirrored and difficult to decipher due to bleed-through from the reverse side of the paper. Some legible fragments include: "examined, which has more pages than any Bulletin I have yet written", "There are 20 pages in it. It would cost by about a cent per", "Bulletin to print a new lot, has the postage, and put them in the", "hands of parties through the country. We should no more", "what taking soil (not) happened to about a good deal of money in", "circulating the Bulletin. Do you think it worth while for me to", "send out the plan above proposed of sending copies to say 50", "copies to 100 cities? I should send them beginning", "possibly with the 15th. Bulletin and send all future numbers after."

What do you say?

Aug 9/02

Large area of the page containing faint, illegible handwritten notes and bleed-through from the reverse side.

WEDNESDAY, AUGUST 9TH. 1882.

NIAGARA FALLS WATER POWER. Mr Walters who wrote you
a letter about selling the Niagara Falls water power, which you
referred to me, has been to see me. The property consists of the
entire real estate with right to use the water on the Canada side
from above the Falls to some distance below the Falls, including
the Falls on the Canada side. The property belongs to an old
Canadian 80 years old of age who has owned it for over 40 years.
The owner already has a loan on the property from a savings bank
the loan amounting to \$150,000. We can either buy the entire
property for \$500,000 or we can buy simply the water power with
the right of way for waste through the real estate for \$200,000.
Or we can buy several detached lots with the right to unlimited
use of water together with the right of way for waste. The entire
length of the property on the Falls and river is 2000 feet, and
the depth is about 600 feet except at the lower end where the
depth falls down to about 350 feet. We can buy all the land above
the Falls amounting to about 500 feet together with unlimited
water, also right of way for waste - we can buy this for \$200,
000 and can put half of that amount on bond and mortgage any
length of time we wish at six per cent.

W. Walters

THURSDAY, AUGUST 10th. 1882.

SOME OF OUR AGENTS DO NOT KNOW ABOUT THE TEN CANDLE
POWER LAMPS.

For instance Munroe is very much surprised to learn that the L dynamo will run 250 ten candle power lamps. Are these ten candle power lamps sufficiently tested and in practical use for me to speak of them in the Bulletin? If so please tell me how many of them each dynamo will run and I will mention the same in the Bulletin. In the 10th. Bulletin I ~~said~~ stated how many lamps each dynamo will run but omitted the ten candle power lamps as they were not then in practical use enough for me to say anything about them.

CINCINNATI. Mr Stuart was in for two hours again to day and I have given him his final information touching the proposed Cincinnati company. I sincerely hope it will go through and that we will get an order from them for a central station as soon as they can secure the right of way from the city which they should be able to do in a few months.

SCIENTIFIC ASSOCIATION. I cannot get hold of Prof. Barker either by letter or by telegram. I have had his house visited in Phila., also the University, but cannot get any information where he is. His last known address was Lancaster, N. H. I have telegraphed there and the operator sends back word that they know of no such man there. I have accordingly this day sent a note to Johnson asking him to be in readiness to go to Montreal in case we cannot find Prof. Barker in time.

GODDARD. Col. Goddard returned to day. He is much improved in appearance. He was in Europe on land just thirty days. He left here June 21st. and returned August 10th. He did not make the trip in one month as perhaps some others would have done under the same circumstances.

PRICES ON THE CONTINENT. I wrote Bailey asking what they sold plants for. He replies that they sell a 60 light plant for A lamps with all accessories for 6500 francs. Bailey says that such a plant costs them in the custom at Amsterdam or Ham-
burgh 3750 francs and that there is an average charge of 300 francs in addition. He states that he furnishes to the Italian, Holland and German company all machines at cost price, and that even then they are too dear to compete with others. He says that his company also keeps an engineer at its own expense to look after the plants and sometimes keeps a man at their own expense for three months to look after plants in one place.

EUROPEAN FOUNDERS SHARES. Bailey writes that the founders shares are being prepared but have not been hurried up. He says he wishes to have his arrangement perfected before he sends on the founders shares.

STATEMENT OF EUROPEAN CO. I have finally succeeded in getting from Puskas & Bailey a statement of the business of the European company down to the end of June. I send you a copy herewith. It is marked A. Please retain it for your files.

SYSTEM OF ISOLATED SUPPLIES. A short time ago I wrote o

FRIDAY, AUGUST 11TH. 1882.

to the agents of the Isolated Company asking for their criticisms on the existing system of supplies and filling orders. Borden replies giving an account of the system for keeping track of orders in his Bleachery where the business is made up of infinite detail. He says "I think our customers have little cause for complaint as compared with those dealing with other companies." That is not much of a compliment; for we know that our only competitor in incandescent lighting is the Maxim company and they have no system at all.

NOT SO HOT IN CUBA. Mr Rich writes from Havana, July 26th. that the mercury has not been above 93 and that there is a fresh sea breeze which makes the heat not unpleasant. Still the yellow fever is about.

my suggestion was in relation to all the big Co's

AGREEMENT WITH BORDEN. Your suggestion of one per cent on the capital stock of the Fall River company is a good one. I shall have to settle the Borden matter probably on Monday. He wants to know what he is to do in his present position whether to give it up or not. I hesitate about incurring such a large liability; just at present. I do not want to take the responsibility of it unless Moore and Goddard concur. I shall confer with them at a session we propose to take on Monday, and if you chance to be here Monday forenoon I should like to have you attend also if you will give us the time to do so.

BARKER NOT TO BE FOUND. I am not able to find Prof. Barker even yet. Nobody in Phila. knows his address. I may

find him at any hour. I spoke to Johnson this morning about his going to Montreal in case we do not hear from Prof. Barker. He will do so.

What will I take with him that will not hurt or patent. ~~show it to~~ without we can make good use of it.

LIST OF ISOLATED PLANTS IN EUROPE.

Bailey has not

sent us much information until just now just on the eve of his coming here. Better late than never. I enclose list of plants installed in Europe which I have just received from him. Please return the same to me. It is marked ll B. Bailey probably sailed August 5th. Prof. Columbo, a Director of the Italian Company probably sails with him.

PLANT ON THE QUEEN OF THE PACIFIC. Mr Mc Carty writes

from Rio under date of July 12th. " I was on board the steamship Queen of the Pacific on the 1st. of July. They did not stay here but two days. They did not start their dynamo but one night since they left and then the light was not very good. They did not have their brushes working well. I stayed all night on board and run the dynamos, fixed the brushes for them and showed them all I could in the short time I had. There is a light in the steward's room and four in the fore-castle that did not light.

All the others give good light. I think the fault is in the wires not in the sockets but I had no time to fix them. If she had not went so soon I would have had a large party to go on board and see the lights."

Handerson has good men on the Coast when boat gets there, there'll be no trouble then

THE LIGHT CO. OF TAUNTON, MASS.

There is a light company in Taunton, Mass., which has bought land, erected a building

5
I would like to make a
beautiful job of it

I don't think we
can afford to have a black eye given us in a me
hometown like ~~Tarrant~~ ^{with 469 power}
to fix it - it would do us ^{Chambers}
harm there are thousands of
such places

(now almost completed) installed a Buckeye engine and boilers,
purchased Arnoux machines for 60 arc lamps and have left one end
of their building for an incandescent machine. They propose to
buy the machines out and out, own them, then manufacture light and
sell it to consumers. I brought this matter to your attention
some time ago. Probably they will accept our light. The only
objection we would have to sell a plant to the company would be
would be that we could never probably establish a local Edison
company there. Certainly not for the present. I believe we could
not do ~~so~~ in any event as this organization is made up of the
best people in the place. *Let them see in the arc
then they can change entirely to incandescent
which we will have a say*

OUR PLANTS APPROVED OF.

A new mill is being erected
in Augusta, Ga. It is very large. The manager has been east
buying machinery and looking up electric lights. ~~Waskings~~ A
friend of Hastings brought him to Hastings. Hastings gave him a
list of our ~~factories~~ plants burning in factories. The man report-
ed to Borden at Fall River and Borden showed him all the plants
there. The man then went further east. He returns and says
everybody says our light is the only one worth anything. He gave
us an order for 400 lights subject to the approval of his Direc-
tors. He says the Merrimack mills people in Lowell told him they
had given up the arc light because it was no good. They now burn
the Maxim light in one end of the room and the Edison in the other
end. They told him that the Edison was far ahead of everything
and that they should probably light up all their mills with it.
This is encouraging news, because they have never paid their
bill, and have always written to us and talked to Munroe in a sort
of dissatisfied tone.

MEXICAN COMPANY. Mr Mora and Mr Ernesto Fabbri came here this morning and talked over the Mexican contract. I made 8 criticisms to it. I then embodied them in writing and sent them to Mr Navarro's office at 12-50 when he was to have a conference with Gen. Mexia. Mexia is the man who represents the proposed company in Mexico. He holds the right for the Maxim lamp in Mexico and has got a concession from the Government for them. He is also the man who has fought our application to the Government. I have spent a good deal of time on Gen. Mexia lately and he, after looking into the various lights in Maxxa New York, has made up his mind that he has made a mistake and that our light is the only one. I do not like the terms with the Mexico company. Still we agreed to leave this matter to Fabbri & Chauncey and they have taken Mr Navarro into partnership. I do not think we can do otherwise than accept what they finally tell us are the best terms they can possibly give. They are all coming here tomorrow forenoon to discuss the matter with me and probably to close it.

Quincy

DID YOU SEE THE MORNING ADVERTISER OF AUGUST 10TH. It contains some more of that mean talk such as Flint used to utter a year ago. It makes me very angry, but good judgment dictates that we keep still and bide our time. Still I have not forgotten the mean slurs uttered by Mr Flint last summer, and I shall put this one innyesterday's Advertiser away back in my memory along with those of last year.

*Yes say it's our time
Chauncey*

THE BIGGEST SWINDLE YET. The American Magneto Electric

Light Co. have issued a Bulletin. The President of that company has been spending a great deal of time on Shaw and on his friend Stuart from Cincinnati for the last few days. They have acted as greenhorns seeking an investment in electric light stocks.

This company has gorgeous offices at 39 Broadway. The President of the company, Foxwell, talks about his lengthy interviews with you, and tells the most outrageous lies about our company and every thing connected with it that I ever heard uttered. Shaw has been spending two days trying to get Foxwell to verify a statement made to Shaw that none of the Edison stock was good for anything, and could get him all the Isolated stock he wanted on Shaw's own terms. Shaw told him he would take ten shares at par. The man says he shall have it in a day or two. This morning the man showed to Shaw and Stuart a telegram which he said he had received from H. A. Drexel of Phila. in which Drexel told him he would trade off some Isolated shares for one of Foxwell's dynamos. Foxwell said the trouble was that Drexel's shares of the Edison Isolated company were only so much waste paper and he thought he should reply to the telegram discouraging it. Still he said he would take the stock in exchange for a dynamo if Shaw would take it from him at par. This is a sample of what the man said. It is a long story and you must get Shaw to tell it to you some time.

It is very rich. He said our Company placed 4 dynamos in the Pearl SSt. station 7 months ago and turned the current on our conductors and melted out one mile of conductors before they could turn the current off. He says we are now taking up this mile and putting down large conductors which accounts for our delay in starting.

*Have read this Bulletin to the
Robert thing out,*

8

MORE ORDERS. Mr Everett has given us an order for a
plant for his other hotel on the West side of the city. We
have whipped out Maxim in this case. Moore also has an order to
put a plant on the steamship Carolina runing from Baltimore to
Norfolk but possibly I mentioned this to you before.

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2
15

SATURDAY, AUGUST 12th. 1882.

SYSTEM OF ISOLATED SUPPLIES. The item under this title in yesterday's Bulletin was not finished. I will now finish it. Yesterday I told you what Borden thought about the system of keeping the supply accounts, filling orders &c. in the Isolated Company. Now I will tell you what others think about it. Mr W. S. Howell writes that he has no complaints or suggestions to make. Mr Bancroft writes that all his requests have been promptly filled but suggests a more rigid inspection of articles before they are sent out. He thinks our wiremen rush through their jobs too fast and that they throw too much secrecy around their work so as to make it appear mysterious even to such mill people as should have a right to know about the matter for the reason that they will have to take charge of it after the wiremen are finished.

Mr Munroe writes at length in reply and says he sees no ground with one or two exceptions for complaining and the exceptions which he mentions are not quite the fault of anything in the system but seem to be delays in getting our orders for supplies filled. He says no word of complaint on the subject matter mentioned in my circular has ever reached him from any of our customers.

Mr Bliss replies from Chicago that everything has gone along lovely with him so far as our management here is concerned. But he thinks we ought to keep a larger stock of fixtures on hand so as to avoid delay. I quote the last sentence from his letter as follows "I do not see how the officials connected with the supply department could be more considerate and attentive in helping

"along the best interests of the Company." I have still one more to hear from, namely, Mr Hoskin. He is away on a summer vacation.

I am a little afraid these letters which the agents have written to me are a little rosy. Possibly our agents are a little timid about making a formal statement of complaints of management in the supply dept. of the Isolated Company. I will try to see how that matter is by conversing with the agents when I get a chance to meet them face to face.

BALTIMORE COMPANY. Regarding the fact that Messrs Baker and Curlett have withdrawn from the proposed Baltimore company after seeing our estimates, the question is presented by our Baltimore friends whether in supplying their places with other capitalists they can say whether our terms will be revised and made less. We could not very well make make better terms for Baltimore, although gas is a \$1 a thousand, than elsewhere. It would dissatisfy everybody, especially the Chicago people. The same question is presented in Pittsburgh which is now presented in Baltimore. In Pittsburgh gas is permanently low. They want extra terms. Perhaps a good plan would be to exact the percentage of stock on our usual terms, but to provide that on a certain portion of it we would waive dividends until the company ~~passes~~ pays a dividend on a certain per centage, say ten per centum per annum. I only throw this out as a suggestion. Something must be done however. Will you kindly bear it in mind and give me your views hereafter.

GEN. MEXIA. Gen. Mexia, of the Mexican company, was here this noon. He says that in the city of Mexico wood is worth \$25 a cord. There is no gas coal. The coal has to be imported and costs so much that there is no gas whatever used in private houses in the city of Mexico. It is used only for street lighting. The houses are solid stone and the plaster is put directly on the stone. That will make wiring difficult. The city is built on stone. There are no cellars and it will be very expensive to excavate stone to put down street mains. You thus see that the outlook for lighting in the city of Mexico, is not first rate. Regarding the other cities in Mexico the conditions are more favorable. In many places there is large water power which would enable them to use what you call your skin machines.

PEARL ST. STATION. The number of parties who have replied in response to our circular to have their houses connected are 107 being 2280 lamps. Applications are still coming in although not frequently.

ISOLATED UNPAID ACCOUNTS. I send you for your files a list of the outstanding accounts due from customers for isolated plants. On the whole the collections are very satisfactory.

I will send this tomorrow, mfg.

BLUE PRINTS. I have ordered the six blue prints requested in your note to me of August 10th.

Freeman Suit. The Chicago company writes that some of

their possible customers are hesitating about giving orders on account of the publication in the Western papers of the suit to be brought by Freeman against you. Mr Jacobs who represents the Edison Company in Milwaukee has published a denial in the Milwaukee Sentinel, August 8th.

CAN HE SEE YOU. Gen. Mexia, Mexican Company, wishes to see you. Will you kindly let me know when you will be at the Pearl St? station? Please let me know a day in advance. I will notify him and he will go there to see you.

European Account. I am very glad to see in your letter of August 11th. that the European accounts are not being worked on. I hope I shall get them soon.

THE BOSTON FAIR, The Boston Advertiser of August 9th. had a notice about our proposed exhibit in the Boston Fair. It was a good one. But I am sorry to see it. I wanted to keep this matter quiet. I am afraid such notices will excite our rivals to make exhibitions themselves, which otherwise they possibly might not do.

BULLETINS. I have asked my old law partner, Mr Carter, who is a perfect ~~maxx~~ encyclopaedia of knowledge touching various cities, and he is a sort of walking city directory for cities and towns all over the country, to give me a list of names to send Bulletins to in about 200 of the principal cities and towns.

in the country. Carter is a remarkable man in this respect. He has a numerous acquaintance, has a taste for finding out about people, and has a memory which enables him to retain what he hears. As a favor to me personally he will make a list for me of perhaps two thousand names and I will send Bulletins to them beginning with the 12th. We spend no money on advertising so I think we can afford to do this. I mentioned this to you before and you stated in your recent letter that you thought I had better do it. Consequently I will go ahead.

COMPETING INCANDESCENCE. Mr Munroe, our Boston agent, tells me that the proprietors of Young's Hotel in Boston are erecting another hotel and wish to have it wired for the incandescent light. They do not care to give an order for a plant. Munroe says that both the proprietors of the Weston incandescent lamp and the Swan incandescent lamp have offered to wire the building for nothing and to let the matter remain so indefinitely until the parties may wish to light up with the incandescent light. When that time comes the hotel must use their light. Munroe wanted to know if we would wire the building on the same terms. I told him know. Have you any remarks to make whereby we may stop this sort of thing by Weston and Swan? I do not see how we can do it? I know of no law which prevents any man from doing worthless work for nothing if he wants to and from talking other people into it if they are credulous. Can we stop it?

TEN CANDLE LAMPS. I am glad to get your memo, saying

that we ought not to sell 10 candle plants yet. Our agents are sending in orders for them. I had the impression that it was rather premature and I consequently made the inquiry of you. I will at once tell Moore and Vail what you say and have the 10 candle lamp business stopped as far as possible.

LISBON FALLS, ME. The L dynamo has been started there with the same driving apparatus that was used with the Z. Mr Francis, representing us, writes that it works "grandly" He says the overseer in the weaving rooms is more than delighted.

FALL RIVER PRINT WORKS. Borden has just submitted a proposition to the print works and expects to get an order but is not sure.

NATIONAL RUBBER CO., BRISTOL, MASS. Borden is fishing for an order there and has got them on the inquiry state. He thinks the outlook is good.

NEW ELECTRIC LIGHT COMPANIES. The following electric light companies have recently been formed in New York State, The Monopole, of Troy, Clinton M. Ball is the boss. The Metropolitan of Hudson, The Fitch of New York City. I enclose copies of the certificate of organization in each of these three companies. Please return them. They are marked 12 A.

JAPAN MOORE. You told me you thought of sending Moore to Japan with an exhibition plant. Are you likely to do so? I should like to know as we wish to make some arrangement to

7.
put a man in his place. Are you prepared to decide the matter?

MONTREAL LAMPS. If my recollection is right I sent you the 1st. of the month an extract from a letter written by Mr. Howell at Montreal. The extract is as follows:

"As far as I know we find the lamps made here the same in every respect as those made at Newark as regards economy and light &c. and everything is all ready except the sockets (plaster ones on lamps) and I have not received the machine for finishing them yet. It was ordered some time ago but cannot get any word about it. I think another letter from your Company will hurry them up either the Lamp Co. or Mr Logan at the Park. It is called a "Socket Turning Machine." I am not sure that you have replied to it. If so I have overlooked your reply. Will you kindly give me your views?

TUESDAY, AUGUST 15TH, 1882.

BORDEN & BOSTON. Moore Goddard and I have been in conference all day. The first thing we disposed of was Borden's Boston Agency. We agreed on terms to offer Borden which ought to be satisfactory to him. I have telegraphed him to come here tomorrow. His Directors meet Thursday morning at 9 o'clock. He can go back tomorrow night and resign Thursday morning if he is satisfied with our terms. We have revised the terms so that they are fair and can now yet be safely met. I will not go into details just now.

BLISS & CHICAGO. Regarding the isolated business in the three states that belong to the Chicago company, we propose to let them do the isolated business until the first of next July on what amounts to substantially a division of profits, taking cost and selling prices at present rates. That is to say, we add to the cost of the Z dynamo in New York city \$250; to the L dynamo \$475; to the K dynamo \$750. We also add 30 cents to a lamp which costs us 40 cents, and so on. This is all the profit the Isolated Company will make so long as the Chicago company acts as agent. Regarding local companies in non-gas towns, the Isolated company will let the Chicago company act as agent until next July, and will take the same terms when such local companies are formed, as the parent company now takes from the Chicago company in the case of local companies in gas towns. We also proposed to the Chicago company that they can buy out the isolated business in the three states on the following terms, namely, increase the capital stock of the Chicago company from \$500,000 to \$800,000 and give the \$300,000 increase to the Isolated company, one half stock and one half cash, the Isolated Company not to participate in future increases of capital stock. The Chicago people do not appreciate the isolated business and will doubtless reject this proposition, which will be open only till October. I venture to prophesy that next July the Chicago company will be ready to buy the Isolated business in those three states for at least twice the price now asked.

BOOM IN NEW ENGLAND. Mr Lord, who was here from the Lawrence company, writes me that all New England is now astir on the Edison light question and that our business must rapidly

increase there? The Boston Fair will set them all ablaze I believe

BAILEY. Dailey was here twice yesterday but is not to be here to day. Tomorrow we will have an all day conference with yourself, Banker and Bailey about the European business. Also with yourself, Clarke, Krusk, Bergmann, Johnson, Greenfield and Goddard to fix the time to light up the Pearl St. station. I hope it can be done by the 25th. of August at farthest. I ought to bring out my next Bulletin not later than the 27th., and I feel that I must be able to say that the first station is started

CANADIAN COMPANY. Mr Lowrey writes from Coburg, August 12th., that Swinyard has been all over since I left Canada. Lowrey expects to meet him in Hamilton to day. Meantime nothing has been done about the Canadian company.

What the Brush people do with Agents. Bliss learns from one of his men who used to be an agent with the Brush company that they are now crowding their local organizations both in cities and towns, including non-gas towns all over the country. He says that the Brush people now take 48 per cent of the stock of a local company and out of that they give 8 to the agent, leaving themselves 40 per cent.

DOCUMENTS RECENTLY LITHOGRAPHED. I have just had three important documents lithographed and send you copies herewith. Possibly Clarke has already given you copies as I gave him some yesterday. The first is an estimate for a central station plant

of 14500 lamps. The second an estimate for small central station plants and the third a copy of the report of Hopkinson & Fleming on the H. V. installation. I thought it best to have these documents lithographed as a good many people are entitled to copies and will probably want them.

WILBER
THE TRIBUNE ARTICLES. I wrote a sharp letter to Michels yesterday for leaving out our Isolated business. He replies at length saying that it was cut out without his knowledge by the editor. His letter is highly complimentary to us. Michels called this morning and told me he was ready to make a personal issue about mentioning our Isolated Company in a distinct brief item by itself. I prepared such an item and sent it to Michels this morning. He will get it in an early number of the Tribune if possible.

WILBER. Wilber paid over money to day, a little over \$600, which balances his account according to his figures. He appropriated \$1300. About half this sum is due him, according to his figures. Goddard will figure the thing out.

WEDNESDAY, AUGUST 16TH, 1882.

ANDERSON AT PEARL ST. Mr Anderson writes me that he will take his committee to Pearl St. some time next week. He says that he and Mr Cort (Connecticut Fire) have already been there. He says he wants us to have a good supply of ice on hand when he goes again.

Mr LINGREW. His letter to you of August 14th. to hand. I am glad you like the article for the Popular Science Monthly so much. He called yesterday for a memo, and said he would be in the last of the week. I will give him all he wants for the afore-said journal the next time he calls.

THURSDAY, AUGUST 17th, 1882.

NEW LIGHT COMPANIES. The Gramme Company send me a list of a dozen new light companies recently formed in this State. I enclose you the copies of the certificates of incorporation. I notice that one of them is a New England company to do the Faure business with a capital of two millions. I also notice that Tuegd is starting a company called the Solenoid, capital 500,000. Please return the list which is marked 17-A.

CHICAGO CO. We give them the isolated business until next July on a division of the profits on dynamos. We will add our share of the profit to the cost of the dynamo and take it when the dynamo is shipped. I have already informed you of this.

We also thought it better to give them the option to buy out the Isolated company, good until November 1st. They must increase their capital stock from 500,000 to 800,000 and give half of that increase to the isolated company in stock and give them 150,000 in cash. Moore, Goddard and I all agree that this is fair. Mr Clarke, Vice-President of the Chicago Co, and Mr Bliss called upon me to-day. They accept the temporary agency on these terms but they want until January 1st, instead of until November 1st, before they decide. They also insist that if the stock should be increased to \$800,000 to make this purchase that the parent company in New York should forego its share of the increase, otherwise they will have to increase to enough more of 800,000 to give the parent company its share. I am going to bring these points up at the Executive Committee meeting next week and then communicate with the Chicago people further.

NEW ZEALAND. I enclose a letter from a Mr Clark asking for information about the light. It is marked 17 and is to be kept ~~xxxxxx~~ for your files.

COMPETITION. Japan Moore writes from Bridgeport, August 16th., where he was canvassing for orders, that within three days that town has been canvassed by the agents of 4 different electric light companies and by two gas machine agents. He says they have all made "base and contradictory statements", and that it is next to impossible just at present to get the attention of manufacturers.

FRIDAY AUGUST 18th, 1892.

CANADA LECTURE. I have at last heard from Prof. Barker this morning. He says the time is too short to deliver the lecture at Montreal. Johnson thinks he cannot leave here, because the lecture is to take place on the night of August 28th. and that is one or two days before the time fixed for our lighting up here. It is very important that the lecture should be given, as it would help us to float our Canada company. Chances to make good points like that to facilitate the launching of a company should not be lost. But I am disposed to agree with Johnson that he cannot be spared just at that time. I regret it sincerely. I have telegraphed Mr Lowrey about Barker's refusal and will leave him to deal with Barker and persuade him to lecture if he can.

THE LEDGER PLANT. This morning the mail brings a letter from Mr Rowan, the engineer of the building, saying that another switch has taken fire. He says he is growing "impatient" about the plant. Coming just at this time this is bad news. I have instructed Vail to send a man on there at once. Mr Rowan says in his letter "Mr Howell is a very good talker but I have some doubts as to his practice." Rowan says he wants somebody at once who thoroughly understands the business to look at the arrangement in the Ledger composing room. I have instructed Vail not to lose an hour in this matter.

SWAN SUIT. I am anxious to know at once whether the report is true that a suit has actually been commenced against

Swan in London. For an especial reason I am desirous to mention it in the next Bulletin, where it will come in very apropos. Will you kindly cable to London immediately as follows and charge the same to the Light Company, Viz. Is suit against Swan begun. Can we mention it in Bulletin.

BORDEN AGREEMENT. Our arrangement with Borden is to pay him \$6000 a year salary anyway and to pay him an additional \$2000 out of the commissions which are to be 5 per cent on dynamos only. We also advance an additional sum of \$6,000 to pay the salary of Paine, of Borden's brother, and of Dwelley. This amount except \$700, is to be repaid to us out of commissions after Borden shall have been allowed his additional \$2,000 per annum out of such commissions. We are also to pay his rent and the actual travelling expenses of his men, but that is to be allowed us out of his commission. After deducting these sums all that remains of his commission is to be given to Borden. Each year does not stand separately by itself, but the commissions of the entire period apply to the entire expenses of the entire period. The contract runs until January 1st, 1897. Regarding the central station business, the decision reached is to pay him five per cent on what the parent company gets when a local company is formed. We are to pay him that in kind, be it cash or stock. That is to say we give him one twentieth in kind of what we get. In this connection you will notice that this is the very thing just now under discussion touching the European contract for Puskas & Bailey. Borden was to resign yesterday. We do not know whether he succeeded in doing so. The red tape of the contracts is that we draw first a contract between the Isolated company and Borden

and second a contract between the Light Company and Borden and third an arrangement between the Light company and the Isolated company. The contracts are arranged with an eye to it that neither company is placed in any legal liability except for its own business. *One important consideration for us in the contracts is if the New England business does not turn out big enough to require the services of Borden and the three associates named, we shall have the right to order them any where else in the United States. Possibly Borden will not accept that provision as regards himself, but it will be accepted by his associated.

CRYSTAL PALACE AWARDS. Johnson has handed me the awards made at the Crystal Palace. I send you a copy, although I suppose you have one. If so please return it. It is marked 18 A. Everybody seems to have got a gold medal. The only ~~max~~ point I can make in the Bulletin is that your gold medal was for a complete system and in that respect was unique

CRYSTAL PALACE EXHIBIT. I hand you a circular herewith from the Crystal Palace Gas Exhibition. If you wish to exhibit there is not much time to do it in. I also hand you two other London documents of little value. All these are for your files.

COPPER SAVING CURVE. I have asked Clarke as you requested to prepare a curve showing the saving in copper alone when resistance is increased from 140 to 330. The illustration to be in jumps of ten, that is to say to figure the thing out for each ten ohms of increased resistance.

MONDAY, AUGUST 21ST. 1882.

SCIENTIFIC AMERICAN ARTICLE. The Scientific American

have showed me the proof sheets of their article. I have added a few more trifling things to make it more effective. There are quite a number of illustrations. The most important is that of the dynamo room at Pearl St. station. That one is put on the first page of the Scientific American and makes a good show. If they print the article as it now stands I think I shall order copies enough to send one to each person to whom we now send the Bulletin.

GAS LAMPS. The Engineer states that the total number of gas lamps in the City of London is 3225. Can that be correct? It seems to me that the number must be more than that. I should like to know as I wish to make a Bulletin item and to use that fact.

*Clark can
get
the
number
of
gas
lamps*

MR. WRIGHT'S HOUSE. A written complaint was made to

me about bad work being done at Mr Wright's house. I have had the matter investigated. It seems the head workman got drunk and it was not promptly reported. As soon as it was discovered he was discharged. The work has been carefully done and it is believed the lamps will run to perfection so far as the wiring goes. Let me state that the chandeliers in the house will be disconnected from the gas pipes and be connected exclusively with the electric system. The insurance people will not pass the job otherwise.

*I understood that where
gas chandelier is used down from the
chandelier is insulated from the gas pipes
which it is connected*

ROUGH MACHINES. Borden makes a strong protest to me in person against the rough appearance of the dynamos just sent him.

He says the iron scales drop off. He brought some of the scales in a piece of paper. I will put a written statement from him in the Defect Book.

EUROPEAN ACCOUNTS. I hope you will be able to bring in that European account tomorrow, to be used at the session of the ~~Executive~~ Directors of the European Company with Mr Bailey. I should like to have all Bailey's matters finished tomorrow, including his commission &c. Regarding what you state about a European Bulletin, a small supplemental Bulletin, to be sent to European stockholders, to be issued every six weeks or so, I think there would be no trouble in bringing about the same good results regarding the stock of the European company that has been brought about regarding the Stock of the Light company and the Isolated company. I find that when stockholders grumble they are generally satisfied as soon as they learn the facts. A Bulletin gives them the facts. Regarding Bailey's compensation, I have somehow got the impression that you think he ought to have five per cent of the founder's shares now due the European company. My view has been that he is entitled to five per cent of the income as long as he continued to be an agent, and not five per cent of the capital stock. When a mercantile firm like A. T. Stewart & Co. hire an agent and give him an interest in the business they do not give him title and legal ownership to the capital. He participates only in the income. I think that is the proper way to treat Puskas & Bailey. However, it is a matter for you and Mr Banker to settle, and I feel that I have nothing to say about it, further than this, namely, that as an officer of the Company I am bound to present my views and get them

acquiesced in if possible.

BAILEY AT WORK.

Mr. Gowan advertised for a stenographer for Bailey yesterday and Bailey has gone to work this morning with his new stenographer writing his report. I will look over the report carefully as it is turned out and if necessary will suggest changes to make it complete and clear.

July 12th
BALTIMORE CO.

Another letter from the Baltimore people

I think the best people could make out the amount of a concession

this morning. When our Directors get together we must think up some plan which will amount to a practical concession to the Baltimore people at least of a temporary nature as long as gas sells at one dollar and lower. We cannot change our terms on the face of the contract without creating a bad precedent. Possibly we may consent to reduce our participation in the dividends temporarily. But I have not thought the matter over much yet. I have notified the Baltimore people that we will take it up later in the season, after our Directors shall have returned.

ADIRONDACK PLANT.

Mr Waters, in charge of the Adirondack plant, writes that our light there still works perfectly and gives general satisfaction. Durant wants Waters to stay until the end of September when the season closes. Waters says the lamps do not last as well as they would if the E. M. F. was more uniform and lower. Still he thinks they will last 600 hours.

SPIERS & BARNES' PLANT IN NEW HAVEN.

The acids used in pickling eat our acids clean. Vail is going to send them up some lead covered wire. Another bad thing is that in the ice house, where some of the wires run, the moisture stands on the

wires and the wires rust. This will involve some experiments with taping the wires with heated tape. At any rate that has been suggested.

Jap's wires ought to fix this trouble

LEDGER PLANT. Howell reports what he calls "a very annoying burning out." He says it is due to bad work on the No. 216 switch. He says one of the contact plates which joins two cone plugs became loose and singed the base of the switch burning out about one and a half inches clear. Howell says Rowan refuses to turn over to him the burnt switches. I guess Rowan is going to keep them as evidence to base an action for damages on account of poor work in case our system ever sets the Ledger building on fire. However, that is mere guess-work on my part.

all this class of switch ought to be withdrawn & had the same thing occur in my house - please

BRUSH LONDON COMPANY. I see by the London Times of August 5th. that the Brush company declared an extra dividend of ~~10~~ *100* per cent. *that they be withdrawn* The report states that there was some discussion *and proposed* at the meeting of the stockholders about the wild speculation in *the shares of subordinate companies.* The Chairman of the meeting *thought that the state of things in the subordinate companies was* "very unhealthy." *to change it at his expense* Had that man lived at the time of Noah's

flood I presume he would have called it "very damp".

THE ELECTRIC LIGHT BILL BEFORE THE BRITISH PARLIAMENT.

I see by the London Times of August 9th. that the House of Lords, sitting in committee on the el. light bill, amended the House of Commons bill by extending the period after which the local authorities may purchase the plant from 15 years to 21 years; and by providing that after that period each subsequent period should

be 7 instead of 5 years. I see that Arnold White is out in a letter to the Times, stating that the House of Lords are in error in believing that any such change will be satisfactory to the Electric Light Companies. He says the Edison company are not satisfied with it.

BRAZIL PATENT LAW. John Moore & Co. write under date of July 21st. that the new patent law has passed the Senate. It now goes to the house. The life of patents is to be 15 years. In case of patents obtained in other countries the Brazilian will last during the period granted in other countries but not more than 15 years. Probably the Bill will pass both houses soon. Then we can start business in Brazil. I am not sure from the letter of Messrs Moore & Co. whether articles manufactured outside of Brazil can be introduced without disrupting the patents. But the impression made on me by the letter is that we could ship articles to Brazil. The Weston arc light was recently shown in Brazil on the American corvette Brooklyn. Mc. Carty went to the vessel one night to see the light burning and found the armature had burned out and the light not running. The Swan light is being used by an English company in lighting a tunnel now being bored in connection with a new railroad. The Jablochhoff light is used by a railway company to light up a station in Rio. Some Siemens lamps have been used by the telegraph authorities to light up a public garden. The Brush company did not land their plant (I believe I mentioned this to you before) on account of imperilling their patents. The agent took the plant to the River Plate.

BUENOS AYRES. Mc Carty and his entire plant at Rion

have been shipped July 16th. to Buenos Ayres so we have no light in Rio at present. I will not mention this in the Bulletin until the light gets started in Buenos Ayres.

BANK BALANCES. Saturday night the Light Company had \$11,000 in bank; the Isolated company \$3600, and the account of the Light Company was overdrawn \$20,000.

DEFECTS. The Defect Report for last week has no complaints except about work coming from Goerck St. I think they relate to matters which have been before discussed.

CINN. CO. Stuart has called together the Cinn. parties and discussed our contract with them. They think our terms are onerous. ^{On} The estimates submitted by Clarke of the probable profits, Stuart says that his associates do not regard the enterprise as attractive. They are to have another meeting in a few days and will then write us more formally and at greater length.

sent that
LONDON CABLE. I hope you have cabled to London to inquire whether the suit has been commenced against Swan and whether I can mention it in the Bulletin? I desire to make my next Bulletin especially attractive. If a suit has been commenced I want to know it and make a point by mentioning it.

MR. LOWREY'S RETURN.—Mr. Lowrey will go to Montreal this week to look after that end of Canada touching our proposed company. He expects to be back in New York before the end of this month.

BAILEY & PARIS. Bailey has been with me a couple of hours this afternoon. He says he has disbursed 50 or \$60,000 in cash. I asked him to furnish an itemized memo. of such disbursements in order that we might see the exact amount and criticise the necessity for it. He will do so tomorrow. He promises to have his report done showing what contracts he has made so that it will be ready for our meeting tomorrow afternoon. I hope the whole Bailey matter will be finished at one session tomorrow afternoon. I have so much to do I like to get things out of the way. There is one thing I said nothing to Bailey about but it seems to me important. I thought I would say nothing about it until I had your views and then talk to Bailey about it. I mean the question of having some inoffensive but active man on the spot in Paris, in the employ of the European company of New York, to pick up information and answer petty questions. I want a man there who will write me by every steamer full, exact and detailed information of the progress of business. I do not want too smart a man because he will immediately get too big for his place. Nor do I want a man of mature years, because he would perhaps come in contact with Bailey. But I would like a young active man, in whose integrity I could have absolute confidence, to act as news-gatherer and to act as answerer to questions written from here. Such a man would cost us \$1200 a year, in addition to travelling expenses. It would pay to have him. What do you think?

I discussed Bailey's commission with him this afternoon. I told him that if he could show me that he had disbursed \$50,000 in an intelligent manner I should be in favor of giving him his 5 per cent in founders shares but otherwise I thought he ought to be satisfied with the 10 per centage on the income accruing to us

as fast as it came in. I find that he and Puaskas already get between them about 3 per cent of the total income of the Continental Edison Company. It is paid to them as Directors. You remember the Directors take 11 per cent. It seems that Bailey and Rau get one fifth of that apiece. The other Directors including Puaskas get about one seventh of it apiece. I believe Puaskas is a Director in that company. Porges, The President, gets about one eighth. Bailey and Rau get double compensation and the President gets one half more compensation than the other Directors. This fact we must bear in mind in fixing Puaskas & Bailey's pay

THE COMMISSIONER OF PATENTS. Mr Marble, the Commissioner of Patents, spent a long time with me this forenoon. I guess he was here nearly two hours. We had a long and very interesting talk about patent matters. Certain things passed between us which I will not mention in writing. I will reserve them to speak to you about personally. They are important but will keep

BORDEN. I took Borden out to lunch with me to day. His contract has been finally settled this afternoon. I have just said good by to him on his return to Fall River. He is satisfied and will go to work with great energy. His contract goes into effect September 1st. In order that he and Paine may not be tied up by the Mechanic's Fair at Boston, he wishes to have Munroe placed in charge of the talking dept. of the company at the Mechanic's Fair. It is a good idea. Munroe will be on the spot and, as Robert Lincoln used to express it, swap lies with every man that comes along.

STILL MORE ORDERS. Orders for isolated plants are

coming in so fast I almost lose track of them. That large plant of 400 lamps for the cotton Mill at Atlanta has been formally ordered to day. Besides that the Merrick Thread Co. Holyoke have ordered their plant increased from 120 lamps to 360. Thus does the good work go on.

W

WASHINGTON ROCK. Bailey tells me he sleeps every night at Washington Rock near Plainfield. He says that entire mountain can be bought for \$40,000. When you get tired of electric light business, you can buy that mountain for a land speculation, run a narrow gauge electric railway up the side of it and sell out the lots at Elberon prices. I charge no commission for this suggestion.

TUESDAY, AUGUST 22ND. 1882.

—bury
GERMANIA MILLS INSPECTED. Mr Woodward, Inspector,

Boston, has inspected the Germania Mills. He requires them to put in a Siemens magnetic tester for testing ground connections every day before starting the light. This is something which Woodbury seems disposed to exact in every case. What do you think of it? *I don't believe in it*

they might keep a little detector that Clarke could devise connected to one man & the

Earth & there at all times see the leakage
SWAN SUIT. In my ~~notes~~ *notes*, mailed to you last Friday evening I suggested that you at once cable to London to see if the *the best way through inspection making it* Swan suit had actually been begun. I have not hear from you *was possible to have an Earth Contact* since. That was four days ago. Have you cabled? If not, I

hope you will do so immediately. Please charge it to the Light Company.

WEDNESDAY, AUGUST 23RD. 1882.

fixed this
THE SWAN ARTICLE IN THE BULLETIN. The London Electrician of August 12th. reports my entire article in the Twelfth Bulletin on the Swan lamp patents. Probably Swan will reply. We can stand on every statement made in the article, viewed from the stand point of the United States patents. That is the stand point from which the article was written. Viewed from any other stand point the article is open to exceptions possibly.

EUROPEAN COMPANY ACCOUNTS. The Directors of the European Co. hold an adjourned meeting on Friday, August 25th. It will be held at the office of Mr Cutting at 1 o'clock. The European accounts ought to be presented to me before that time, in order that I may digest them and submit a report on them to the

meeting on Friday. I have so many things to look after that it is very troublesome to have to waste so much time on this matter.

Will you kindly tell me whether I can expect to have these accounts tomorrow, so as to get them ready for the meeting on Friday?

INSULATION FOR WIRES. A Mr Callender called to day with a letter of introduction to Mr Insull. He is from London. He insisted upon my reading the letter, against my will, as he said it was merely for the purpose of opening business. I glanced over the letter. He has a new insulation to sell. I at once told him he must see you and I advised him to send his letter by mail to Mr Insull and ask for an appointment.

MORE BUSINESS. We have just received an order for two isolated plants to go to Cincinnati. One goes in a distillery and the other in a hardware factory. The Berkshire Apartment House in this city have also ordered us to wire their new building, cor. Madison Avenue and 52nd. St. Business comes in very fast.

PROVIDENCE. E. D. Adams thinks he has enthused some Providence men to such an extent that they will give us an order for a central station. He wants some Bulletins for them to take over and read. I will give him all the literature he wants and we will try to at once work up a company in Providence.

W. K. FREEMAN. The man who says he invented the Edi-

son lamp called on me personally to day. I was surprised to see him. He says he has fallen out with Jobbins, also with the United States company. He wants to bring all the papers in the case to me tomorrow in confidence and wants me to tell him what they are worth to our Company after I look them over. He says he will confide in me personally not to give him away if our Company decide not to buy. He says he will not see any lawyer of anybody but myself. He says the price which he was to receive was \$100,000, but that \$25,000 was all that was to come to him.

If there is anything in the case I guess I can buy it for about \$5,000. That is my measure of the man. *I wouldn't give*

less than 10 cents a cent he don't go on with the valuations & 'dave not

MONTREAL LECTURE. Prof. Barker telegraphs that upon his arrival at Montreal he finds that all the evening sessions have been assigned to somebody. Consequently as it now turns out we could not lecture ~~ix~~ even if we wanted to.

BAILEY. Bailey has disappointed me since he has been here. His verbal statements are not carefully made and he does not come fortified by any written documents whatever. I do not yet understand why he did not bring the founder's shares over with him. Possibly some one will say that he left them over there in order to attach them provided we do not allow him his 5 per cent. I have seen no reason to think so, except what he said yesterday about his claim having a legal side to it. You remember when he was here before he consulted a lawyer and almost started a law suit. I am afraid to deal with that class of people.

I do not care enough for money to make it by unnecessary worry. If Bailey succeeds in explaining matters more satisfactorily I shall be glad. If he does not, I think perhaps I had better give up my connection with the company and resign my position as an officer. Judging from the past, I have not confidence in the management of affairs in the future, if they are left in the present shape. Our friends who have invested \$80,000 cash in the stock of the company have a right to expect me, so long as I remain an officer, to see that things are properly done. They are not properly done. I am powerless to prevent it. Under these circumstances I take no pleasure in being an officer of the company.

THURSDAY, AUGUST 24TH, 1882.

FREEMAN. He has not called to day. I told him I could not talk intelligently with him unless he brought me the affidavits which he voluntarily said he would bring. Possibly he may be in later in the day.

CINCINNATI. Letters from Mr Stuart show that the Cincinnati people are figuring out our proposition very closely. Evidently they find our terms too high. They have not said so exactly, but their letters show it. I guess we shall have to revise our figures. The Baltimore people have rejected our figures. Now let us wait and see if the Baltimore people do.

BAILEY. He apologized to day for having brought forward the legal aspects of the case. The legal aspects are in our favor. A man who keeps a diary has a ^{rv} larger and more accurate memory than a man who does not. We are all right on the legal aspects of the case. But that is not the way to handle this matter. We must find out just what Puskas & Bailey have done and we must then pay them what their work deserves. Bailey does not take kindly to finishing his report. But I keep him at it. I am going to ~~keep~~ have it printed, and have already put a part of it in the hands of the printer. In no event do I think we should pay him his 5 per cent of founders shares until they shall have been delivered into our hands here in this city. There are some things about this Bailey matter which I will talk over with you the next time we meet. I do not like to

write them.

A LAWYER'S BILL. Mr Betts renders a bill of \$543 for services to date. Hiring him is expensive work. We must have a first class lawyer in charge of our law dept. and let him do the most of this work, except in very important cases.

FREEMAN'S BROTHER. Here is a letter from Mr Hoskin stating that the brother of Mr Freeman has called upon him and wishes to get to work in our Company. He says he will be a valuable witness in the Freeman case. Have you any suggestion to make?

FRIDAY, AUGUST 25TH, 1892.

HORSES DANCING. A Sun reporter called upon me this afternoon in great excitement. He says that at two o'clock there was a crowd of one hundred men at the corner of Ann and Nassau Sts. where horses were dancing on account of electricity. He says our conductors are leaking there and that when horses pass over the spot they dance up and down. I explained to him the mysteries of the business and I suppose he will muddle it as much as possible in tomorrow morning's Sun.

ORE MILLING ACCOUNT. Your bill against the Ore Milling Company is received. I believe there is no money in the treasury. I have advanced about \$1400 and I am told there is no money to reimburse me. I think the whole matter had better lay over until my return from vacation.

STORAGE BATTERY. Your letter about what you wrote to Mr Bliss about this matter is at hand. I am glad you are progressing with the storage battery. We ought to have one which we could furnish if people want it.

BANK BALANCES. The Light Company has in bank this day \$19,000. The Isolated company has \$4,000. The account of the Ill. Co. is overdrawn \$21,000.

STEWART AT SANTIAGO. Stewart has exchanged some sharp letters with Mr Kendall at Valparaiso. The gas people at Santiago are preventing Stewart from getting the right of way through the streets. He is getting impatient and discouraged. He wrote Kendall so. Kendall replies that inasmuch as Stewart is on the spot it is his duty to stay there and wait until the local people who are putting up their money are satisfied there is no use in waiting any longer.

The gas company has reduced its price again in Santiago. Now it is \$4 a thousand. They have also decided to divide their stock up into smaller shares. Hereafter they will be \$100. They will make a deduction of 20 per cent from \$4 for gas, to every customer who is a shareholder. This is a great come down from \$6 a thousand and mighty independent they were at that.

PAY ROLL. Greenfield's pay roll for the last week has amounted to \$379.49

SUNDAY, AUGUST, 27TH 1882.

BAILEY'S CONTRACT. I have written the contract with Bailey, and we have agreed about all the details. Bailey objected to my inserting a clause giving us the right to appoint other additional agents. I did not feel that I could yield on that point. I send you a copy for your files. It is short, but it covers everything - certainly everything I could think of.

THIRTEENTH BULLETIN. I showed Bailey a proof sheet of the Thirteenth Bulletin to day. He thinks there is so much valuable matter in it that he will take it entire, every word of it, have it translated into French, and publish it in Paris as a Bulletin of the French Company there. It certainly is a big Bulletin. It has taken me a good while to write it, and I could not see as I went along why it took so much time. But I find it takes 32 pages which accounts for the length of time it took.

BAILEY'S REPORT. I have gone over Bailey's report again to day with him. He has omitted several things which would not look well if the report got into the hands of certain parties in Europe. I shall send a copy of it to every man whose name is on the Bulletin list. There are now over 1700 names. That includes of course every stockholder in all our companies, besides all of our customers and the officers and prominent stockholders in the Chicago and Lawrence companies, and people who will make inquiries about the light.

THE BULLETIN AND BERGMANN'S NEW FACTORY. Let me call

your special attention to the mention I have written for the Bulletin of the purchase by Bergmann of the United States factory. I have mentioned in detail what was sold to Bergmann. I have even mentioned the gas and office fixtures and railings. I have done this in order to create the impression on the reader that the United States company have sold out bag and baggage. My statement of the case is strictly true, has the appearance of being perfectly fair, yet will create the impression on the reader that the United States company have gone out of business. Read this article in connection with the suit against Maxim, also in the Bulletin, and it looks as though the Maxim business was pretty well played out.

MORE PATENTS. Dyer has just dropped in to see me on

his way to Menlo Park. I am glad he has succeeded in getting so many cases allowed. Taking those allowed week before last, and these which will be allowed now, I have about 50 additional patents to mention in the Fourteenth Bulletin.

FOURTEENTH BULLETIN. The Thirteenth Bulletin will be

out to-morrow, Monday. The last two Bulletins have been issued two months apart. I will prepare the next Bulletin so as to get it out in about the same interval. I have told Meadowcroft not to have any Bulletin prepared in my absence. I should be sorry to see any one else try his hand at getting up the Bulletin. In the fourteenth Bulletin I will mention the patents which are now

being allowed. I will also give a complete list of every isolated plant in the United States either innuse or ordered up to date of going to press. There will be about 100 distinct plants.

ANNUAL MEETING. The next meeting of any of our Companies is that of the Light Company. It will take place on *24th* *October*, I mention this in order that you may bear it in mind.

GOOD-BYE. This is my last business communication for the present. I am really sorry to go away. But I need it. Best wishes and success to you and all.

The Edison Company for Isolated Lighting

65 Fifth Avenue

(Edison Electric
Light Co.)

New York, November 4th, 1888

T. A. Edison, Esq.

City.

Dear Sir:-

Several important questions relating to the future of the Company should be decided at an early day. Some of them are so vital and far reaching in their consequences that I feel justified in making a special effort to secure a consideration of them by a full meeting of our Board of Directors.

MANUFACTURING. The subject of manufacturing is one of these questions. Shall we continue to be merely a patent holding company, drawing our income from licenses and from sales of territory; or shall we become manufacturers, to a greater or less extent, and thus participate, either in whole or in part, in the profits of the manufacturing of apparatus for our system of lighting? Many questions of unusual delicacy and difficulty attend this subject, which I will endeavor to state in full at the meeting of the Board, herein proposed.

CONSOLIDATION. Another matter is that of consolidation! Steps are being taken towards consolidating some of the electric light interests, and overtures have been made to us to Join. The Trustees and Advisory Board of the Gramme Company at a meeting held October 25th. passed the following resolution bearing upon this subject:

"RESOLVED, That a Committee be appointed to ascertain the views of the several corporations represented in the Gramme Electrical Company, as to the desirability and practicability of effecting a combination of their interests and to report thereon to this Board."

The President of the Gramme Company has appointed me on that Committee. The Officers of the Gramme Company intend that the practical outcome of the resolution shall be a combination so far as possible of at least some of the electric light interests and several of the companies composing the Gramme Company appear to favor it. What shall be our attitude? Shall we or not continue our present policy of strict isolation? It seems to me our Board should fully understand the present status of the question of consolidation, in order that they may be prepared to act promptly and intelligently touching future developments.

INFRINGEMENT SUITS. The question of bringing suits against the Maxim and Swan lamps demands immediate decision. Our Executive Committee, at a meeting held June 6th. 1882, directed me to notify the Brush company that if they used the Swan lamp, our Company would sue them for infringement. Besides that, I was instructed to bring such suits for infringement as I might think proper. The above mentioned notification to the Swan company has been given, and formal notices against infringing have been served by us on all the other electric light companies. But no suits have been begun. Meantime the Swan and Maxim lamps are becoming

conspicuous. Since the above date of June 6th., the Brush company has consolidated with the Swan company, throughout the United States; the Swan lamp ^{of Alton (24)} has been advanced towards completion so as to be ready to turn out lamps on a large scale; and the 64 subordinate Brush companies in the United States have begun actively to advocate the Swan lamp, and to promise their several local constituencies that the Swan lamp will very soon be furnished by the Brush company, together with the Brush storage battery. The Maxim lamp is also being pressed with some energy, particularly in the neighborhood of Boston and Chicago. The question of bringing suits against these companies is a larger one than I feel like deciding, individually, and I think our Board should be made acquainted with the exact status of these matters and should itself take the responsibility of determining what shall be done. Moreover I am loth any longer even to threaten suits for infringement unless we really intend to sue, and intend to press the suits with our utmost skill and energy.

PRICE TO BE CHARGED FOR LICENSES. Another matter requiring consideration is the percentage in money and stock to be exacted in the United States where local illuminating companies are formed in cities. The price has already been changed from what it was when the contract was made with the local illuminating company of New York City, which was the first license we granted. Parties disposed to make contracts with us for licenses

for cities are entitled to know whether the price which they are asked to pay is the standard price which will not be varied. How far shall our Company commit itself on that point? Are our present terms too high or not? This subject requires immediate attention, as many applications for licenses are awaiting the decision of the Board.

INCREASED CAPITALIZATION. Our present capital is seven hundred and twenty thousand dollars. Some of our Directors are in favor of increasing it to several millions, say to either five or ten millions dollars. There are certain legal obstacles in the way of doing this, touching the issuing of stock fully paid without adequate consideration. But supposing the legal difficulties can be overcome, and that some way is found (either by increasing the capital stock of the present company or by forming a new company with a large capital), whereby the capitalization of the Edison patents belonging to our Company may be increased; what shall such increase be? Shall it be five millions, or ten millions, or what? And shall such increase be made at once or postponed until another time?

ABSORBING THE ISOLATED COMPANY. Whether or not our Company shall absorb the Isolated Company is another question which, although not pressing, should be brought to the attention of the Board, in order that they may have the matter in mind and



be ready to act in the early future. Much has been recently said about the parent company buying back the Isolated Company and its successful business. It is an important question, and, should it be done, would constitute a decisive change in the existing policy of the Company. Have the circumstances which necessitated the formation of the Isolated Company in the first instance, so far changed as to make it for the interest of our Company to buy out and absorb the Isolated Company?

ISOLATED DIVIDEND. Shall the Isolated Company declare a dividend, and if so how much, at its annual meeting November 21st. Our Company owns a controlling interest in the Isolated Company, and can therefore determine the action of the Isolated Company with reference to a dividend. At the meeting of our Board of Directors which I propose to call, as set forth later in this letter, to consider the subject herein mentioned, I will endeavor to submit a full statement of the present financial condition of the Isolated Company. That statement will show that the Isolated Company has earned money enough for a dividend. Shall a dividend be declared, and if so how much, or shall the profits be kept in the Treasury of the Isolated Company to increase the working capital?

FURTHER PROGRESS IN NEW YORK. Our parent company owns one quarter of the stock in the Edison Electric Illuminating

Company of New York. Besides that, the directors of the parent company are substantially the same as the directors of the Illuminating Company. It accordingly seems to me but proper that the parent company should be considering what ought to be the next step to be taken in New York City by the Illuminating Company, with reference to going on with another Central Station? I will endeavor to present to the next meeting of our Directors a statement of just what the installation of the First District in New York City has cost, together with an estimate of what profits may be reasonably expected from that District; also an authoritative statement as to what it will cost to install another station in New York City, say in the Madison Square District. With this statement before them, our Directors can intelligently consider the question of what, in their judgment, the Illuminating Company ought now do with reference to starting another station in this City.

SELLING TERRITORY. Overtures are likely to be made to us for the sale of our patents for other countries in North and South America. What shall be our policy in this regard? Shall we insist upon selling our patents only to such companies as will exploit the Edison system, and only that, in good faith; or shall we sell for a round sum of money without guarantee that our system shall not be shelved? This question is important and our policy should be fixed.

FUTURE EXPENSES. Our Company has in its Treasury abundant means for all expenses for some time to come, so far as they can be foreseen. But if we begin important patent suits, against Swan and Maxim for instance, our Treasury will be emptied and assessments will have to be made, unless we get money from the sale of territory or the granting of licenses. While this question is not a pressing one, it nevertheless should have the early attention of the Board, in order that they may be prepared for what may happen in the future.

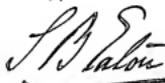
STORAGE BATTERIES. The question of storage batteries is just now a prominent one in the public mind. Last Spring the Faure Storage Battery was offered to us, and about the same time a certain proposition was made to us by the Brush company whereby we could use the Brush Storage Battery. Both of these propositions were submitted to our Board and were declined. Meantime storage batteries have been growing in importance, popularly speaking; and we have taken no steps and have made no plans about them. I think it desirable that our Board should discuss the question of storage batteries and reach some conclusion as to what the immediate future policy of the Company shall be in that regard. Such a discussion will familiarize the Board with the entire theory of storage batteries, a matter which it seems to me they ought to be well informed about; and the fixing of a policy will relieve the officers of the Company from no little embarrassment

in dealing with the subject.

AMENDMENTS TO THE BY LAWS. Certain amendments to the By Laws, have been proposed. One of them relates to a proposed change in the Executive Committee making it seven instead of five. There seems to be some question whether this change is desirable. This subject will probably be brought up at the next meeting.

In view of the importance of the subjects mentioned above, and especially in view of the pressing importance of some of them, I venture to take the liberty of calling an evening meeting of the Board for the purpose of a full discussion. The meeting will be held at No. 65 Fifth Avenue, at quarter past eight, November 16th., one week from next Thursday evening. The usual call for a meeting will be issued in a day or two, and a reminder of the meeting will be mailed to the Directors just before the meeting takes place. I sincerely hope that we shall have a full meeting.

Very respectfully,



President.

(Copy of this letter has been sent to each director of the Light Company)

1882. Electric Light - Edison Electric Light Company -
Engineering Department (D-82-027)

This folder contains correspondence and other documents relating to various technical aspects of electric lighting. Most of the correspondence is by Charles L. Clarke, chief engineer of the company. Included also is a printed cost estimate for a central station, dated August 3, 1882, and several undated handwritten estimates.

Approximately 90 percent of the documents have been filmed. Duplicate copies of selected documents have not been filmed.

File

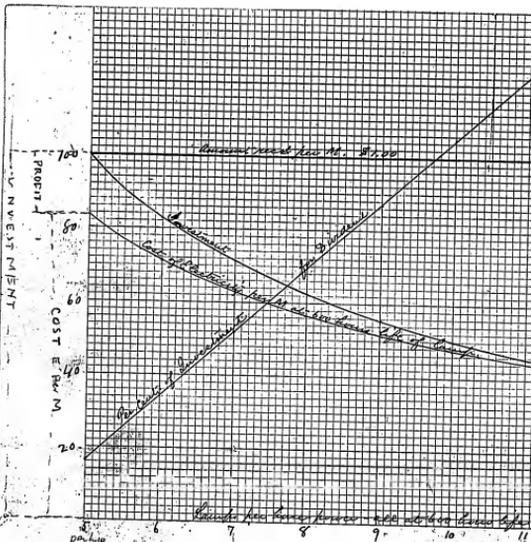
Mr. Edison - I find by
the drawing that $\frac{1}{16}$ " is
given between commutator
bars in test dynamo.

If you intend to reduce
it to $\frac{1}{32}$ " do you think
the following practicable?

Introduce a liner of
 $\frac{1}{32}$ " on the side of
each bar which makes
the contact with the
brushes during revolution.
There will be no spark
on the liner - Chas Clarke



E. Mehin 1000
Lang 82/82
Alaska



Feb 23 1898

Case of loss of Revenue 2000
 and profit 1000 has been set for per
 unit of output

Case of loss in an case profit
 Investment and Revenue are
 relative values to cost other
 these points assumed at cost
 for 4 p.

Point in operation above
 slope for 4.50 day

Running expense included
 on this curve as estimate
 of profit

More to be revised

PUBLISHED BY JAMES W. QUEEN & CO. CHESTNUT ST. PHILADELPHIA.

CROSS SECTION.
 10^{THS}
 PLATE F.

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE

New York May 9 1882

Answer by himself
J. G. Swan, Esq.
" "

Menlo Park,
New Jersey.

My dear Edison,

Today the 250 light machine was ready for a test. The arrangement for preventing the creeping and throwing of oil was perfect, would not now be in the least detrimental to silk hats or dresses, which is quite a point for exhibition purposes. The bearings became fearfully hot at speed (1250 per m.) but after the run we found journals slightly out of true. This would correct itself in a very short time and I think you are safe on that point, but I am pretty sure that

at that speed and with that weight they will always be warm.

The new oil arrangement admits of free use of the same, as it can be screened and used again.

The commutator worked much better and there seems nothing to improve there. The brushes, double width, behaved badly after running half an hour. They are of the standard thickness. It is difficult to adjust the brushes so that one will not take a good part of the load.

Dear is making them about one half thicker. Will try it again. Lamps were way above required E.M.F. at 1250 but then you must allow for drop in line in practice.

The bar machine is not quite ready
or I should have heard from it.

Shall test the 500 ft steam dynamo
for Pearl St. tonight. Shall also
determine the street safety catch,
Kuefer having fitted up assorted
sizes and a catch box which is
now in place in testing room.

Dean is going to take his armature
cage down to Pearl St. tomorrow and
see what is to be done to get it in
with the armature in it.

Bergmann's price for the field
regulators for Central Station will
be about \$135 each - total \$810.

The general idea and details you
know. Will it not be best to give
Bergmann the order just as soon
as I get his final bid, without delaying

Go off to work
Monday

to submit it to you? We shall be in a great hurry for that, and will wait it long before the feeder regulation is necessary.

Soldan is busy upon C dynamo drawings for Patchell.

The Warrington & Em's engine (auxiliary) is at Central Station.

Four pole plates are in position with brushes and lower fields.

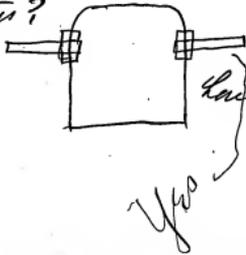
Twenty-eight street safety caplet boxes are in place. Kruesi is much delayed and the work has to be incompletely done for want of joints.

Have urged Bergmann to hurry up his estimate for meters.

Shall have something to say about Howitz's results.

There will be no great change

in new meters, lugs for sealing with
lead seal, longer flexible cord.
Rubber tubes over the copper wires
of zinc plates. That marine glue
seems perfect. George gave me
a sheet of G. Silver covered with
it. Could not scratch or break
by bending. A difficulty, is that it
easily spreads over the zinc when
applying. Should not - Bergmann
furnish with the meters short
tubes with nuts, leading into meter
terminals?



Believe he did use
Lansdown meters.

Yes

Will give you result of test of last
experimental pressure indication in
a day or two. Should give order for
twenty-three to Bergmann as soon
as possible.

We ought to remodel the
street boxes of all kinds for next
district to save compound, weight
of material, clumsiness.

So many lamps have failed in
the testing room that the question
of a fresh supply is serious.
All the sockets are for the old
style. Shall we not put in new
style gradually as the old lamps
fail?

Please read my notes
when writing so that you will

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

New York, 188

7

offer suggestions, as I want to
go right ahead and want
to carry everything out to your
satisfaction.

Yr. truly,

Chas. F. Clarke

P.S. May 10th

Groves's determination of
the reber-second deposit on zinc
plates from zinc-sulphate is

0.33352 mgrs.

Snaque

0.33324

Jenkins

0.342

Exp. Thompson

0.3412

Groves's result for the positive
plate process was 0.31237 mgrs.

The determination was made at a current
of 0.1088 reber.

C. L. C.

New York, May 12 1888

Wm. S. Garrison, Esq.
125
Menlo Park, N. J.

My dear Edison,

Yours of the 11th is
not at hand and contents
noted. Will take up several
points in order.

The result of Garrison's first
test for comparison of the
different meters was made
by connecting their shunts
in series and passing the
current for about twenty
amps through them.

New York, _____ 1888

2

Results are as follows:-

$\frac{1}{100}$ shunt shunt.	$\frac{1}{400}$ shunt shunt.
515.7 mps.	132.8
504.5	130.2 unit
512.5	129.
503.	135.8
515.4	123.
515.5	127.6
501.1	97.7 unit

Average 509.7

Average 130.04

The greatest variation of the
monthly from the average is
less than 1 $\frac{1}{2}$ %.

The greatest variation of the
100 shunt from the average is
less than 4%, but it must be
remembered that this is on
a basis of only $\frac{1}{4}$ of the amount
of deposit and if we allow
the same mechanical errors.

to happen in both cases the error would be about 1%.

The meter bottle in the $\frac{1}{100}$ ohm should register $\frac{1}{100}$ of 509.7 = 5.097. The actual amount was 130.04 which is a fair agreement for two sheets of such extremely low resistance. The $\frac{1}{100}$ ohm continuing box experiments on the meters and will have some results soon, with the plate wires protected by hard rubber tubes. Errors resulting from abrasion & C will then be reduced.

One can hardly appreciate

the care needed in weighing. Burdett found that it made considerable difference as to temperature. The same plate can be lightened as much as 8 or 10 mg. by warming it. The "boy's" theory is that upward currents of air are caused and make the apparent decrease in weight. Not so plausible - What do you say?

Now pushing Bergmann with the cheese knife model. We shall not need the apparatus until the consumption in $\frac{1}{100}$ ohm is so considerable and in fact would not be able

Significant accuracy in former experiments

5

to get it. The matter of the
field regulation is all
settled and I shall order
it immediately, and shall
try to force it through in
three weeks.

I think there is no fear in
regard to the variable resist.
of the Wallace carbons.

This is a test for names:-

99°C 1.17 ohms.

23°C 1.19 ohms.

which is very slight.

Understood that Soldan
was to make the drawings
of C dynamo and Dean's

6

Dean's dynamo is
not to be used
to test the
250 light machine.

My idea is to take the 250 and
to test machine. What do
you say, shall Soldan take
it all? If so make it under-
stood at Mach. Works.

The 250 light machine
will be ready to test again
today. I must say that the
opinion of all who have
anything to do with this
machine, including Dean,
Andrew, and myself, is
decidedly against the high
speed and we can only
see the cost of an extra
magnet eaten up in a
short time by heavy and

constant repairs, besides it looks as if it would prove unreliable and cause dissatisfaction, which would do more to damage the reputation than this extra cost. I can well have an extra magnet on today and we will compare it with old results. I honestly believe it is the best thing to do. The brushholders of the E machine are very poor for handling. I am going to have Bergmann make an experimental pair after the new design for the T.

There is great chance for improvement in the machines.

It would not cost much more and would add much to the actual dynamo to put better (finished) work and stock in the whole brush-holder rig.

I was up at the test of the 5th Central Star machine the other night. The spark was not at all bad. I made the first experiments on safety-catches in bridge box. There is no danger from an arc. I burned out quite a number and with the lids on there was no evidence

of a change excepting by the
lamps going out.

Commercial sheet lead

$\frac{3}{4}$ " wide $\frac{42}{1000}$ " thick carried

150 lamps and was quite

warm. Melted with 320

lamps. We find that in practice

they will be so small that

some device must be used

to hold up the lower and

smaller ring in safety-catch

box. How would three hard

rubber pieces from the upright

pieces to the ring do?

I find that it will probably

be necessary to use safety

catches of various sizes

Must explain to
Mr. Edison

according to the number of
lamps in the face of any
block. For example with

800 lamps in one face the

safety catch at each end

would supply 400,

with only 200 lamps, each

catch takes 100. Is it best

to grade them or take the

max. say 400 and use

that throughout? With next

dynamo I shall get the

capacities of assorted sizes.

Have ordered from Upton

200 lamps old style sockets.

This was provisional, so that

with next lot I can have

W. G. B. 10

11
Total lamps on. Shall work
in new lamps and sockets
after that. Deau has taken
armature cage to Pearl St. and
finds it will go in nicely.

I shall see Kruesi about
hurryng up the remaining
feeders into the station.

Do you propose to start the
light outside the station at all
before the net work is complete
in every detail?

Yr truly

Chas. F. Blair

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

New York,

47

15 May 1882

Blank

Mr. Saml. Insull

Dear Sir

The following is a list
of Mr. Clark's books that you got.

14. Apr. '82

Theory of Heat - Masonell

Rules, Tables &c for Mechanical Engineers - Clark

Richards Steam Engine Indicator - Porter

The Steam Engine - Cottrell

do do do - Rankine

Text Book of the Steam Engine - Goodere

Yours &c

G. Burnham

①
New York, May 17 1882

Mr. T. A. Edison,

Wenonah Park, N. J.

My dear Edison,

The 200 light machine from the list of last night appears to be just the thing. The volts at 900 revs. will be enough to meet all conditions. There will leave ample margin for regulation and loss in conductors to a considerable amount, as you may reduce the speed.

There was no spark and the pressure of the brushes was only enough to hold them on. It must be remembered

②
New York, _____ 1882

that the full amount of ^{possible} current was going through magnets, there being no external resistance in field circuit. The 2 machine unfortunately has not margin enough in field to admit of placing the brushes where there is no spark, excepting with a very light load.

With anything approaching a full load it is not possible.

The brushes used were regular C brushes. Dean is going to make them the same for the London order but will also have some experimental

(3)

brushes made, which I suggested for the purpose, so that they can be tried on the first machine completed. I am anxiously awaiting the results of the four inch cores

The value of one ^{pair} 6" core if called 18.5 ought to require double the number of cores which have a value of 37 in order to make the B bar armature an A.

I think that one pair of 4" cores will have a value of 15 and two pairs a value of 30 whereas they should

(4)

have the value of 2 pairs of 6" or 37. If this is correct and 1200 revs. is the speed under ordinary conditions the speed will have to be increased to 1450 revs.

Even this will not give us margin enough to employ the new dodge ie raise the brushes in Commutator to prevent spark.

I hold that four pairs of 3" cores 36"-long will give us a power equal to 40 or more the 2 pairs of 6" cores. The amount of copper in the two cases

(57)

would be the same and the weight of iron would be in favor of the 3" cores in the ratio of 13 to 21 or almost half as much. This coming test of the 4" cores will settle an important policy to pursue in the future.

Am anxious to see the results of new dodge in C commutator. I propose to start up without any amalgam on commutator. How about that, and shall experiments be continued on that copper amalgam deposit on brush wires? Something may

(6)

Come of it,"
Now for the meters.
I believe that Stuart of South America has ordered 700 meters (without thermoregulators). According to your policy I shall not mit it. Shall "Edison Electric Light System" be cast on all the meters as in the past, leaving to all companies the opportunity of putting any plate on the door to the thermoregulator that they desire. I think it the best way. Shall all meters be ordered in proportion of six twenty-light to one

(7)

fifty-light (which should be called forty-light or the other should be called twenty-five light, because one has double the resistance of the other)? Shall we not rename the smaller and have them go by even twenty-fives? Now is the time.

I would advise the following policy and wish you would give your opinion as soon as possible.

We to have the moulds made for the corks and bottles, just to the size and

(8)

shape wanted, a very slight alteration from the last style being considered best.

Have bottles mould made to suit first and order say, one thousand bottles for a first lot to see how they turn out, also two hundred for fifty-light meters, then have ~~rubber cork~~ mould for rubber corks made to fit. After a few samples from mould are found satisfactory give an order for several thousand. Also follow up bottle order by one for several thousand.

(9)

Also give an order for
sheet German Silver cut in
strips of proper width for
, say three or four thousand
meters. Also a large
number of extra meter plates
and hard rubber fixtures
for the frames. I think it
would be well for Bergmann
to omit in his estimates for
meters the plates themselves
or the shunts. We had better
furnish material for and
make the shunts ourselves
and let him estimate
upon meter plates alone
as one item, and fixtures

(10)

for the same as another,
because the plates wear out
but the fixtures do not.

I have only shaped a general
policy to present to you
and expect to carry out details
myself. If you will settle
that so I can see ^{an} ~~the~~ ^{understanding}
with him I will forge
ahead. It is time now to
do something on the meters
and from all our test I am
convinced that with
well adapted shunts there
is nothing left to be desired.
What we want now is

(11)

to get a good stock of bottles,
meter plates, and fixtures
for the same and adjusted
shunts in hand, also corks.

All of these, excepting shunts,
are liable to breakage or to
be lost or worn out and
we shall have a stock on
hand from wheels to supply
order. As needed, we can
order meters from Reymann
and have him place the shunts.

We should also have on
hand now two or three
dozen hydrometers standardizing,
and at least two should be
sent to the companies in

(12)

foreign companies.

I have had a talk with
George Brown and he thinks
that the work can be
turned out from the testing
room for some time to come.

I think it will be best
to keep him here at the
head of the meter dept. when
he can also continue experimenting
and have some less valuable
men for the meter station
for 1st dist. Any fellow
of ordinary ability can
learn enough to manage
the meters for a dist. after
everything has been determined

(13)

but the fellow who can determine these things is the one we want to keep at central office. I think of taking Hoffbauer, who is at Central Sta. as stock-keeper, away from there, the work being now so light that the man testing tubes there can do it, and putting him in with George in adjusting plants. He is that remarkable mathematician that I told you about.

Palsteter is loudly calling for that Frenchman who

(14)

assists Claudius, and he wants to go to France.

Claudius does not wish to lose him for at least seven weeks. Shall we keep him? I think Logan could find us a good man, preferably French or German in order that he could understand Claudius.

George says that about one bottle in ten breaks in putting in the cork. This seems to be due to the minute being about as large as the body of the bottle which of course brings greater strain

(15)

tending to rupture, than in
a bottle with small neck.
We cannot make the neck
smaller as it will not admit
the plates, and to change the
shape would make the
body very large. Making
a thicker edge to the neck
I hardly think would be of
much use. I forget to say
that the above refers to the
fifty light bottles only.

For a S. American
meter outfit should not
a Pike scales be included,
even if not mentioned in
order? It seems self evident.

(16)

Big tray in Bergmann's
tray mounted sockets.



This sketch shows
that the safety-catch connects
outside of the wooden part
of the socket at both ends.
When enclosed in the brass case
an arc forms every time from
one end of safety catch to the
brass and from brass to the
other end. Every time it

(109)

burns a good sized hole through the brass and uses up the wood work completely. I cannot say that a fire is at all likely but underwriters would doubtless think differently.

In the plain socket, the upper screw is covered with metal and the lower by a wooden casing, hence no trouble whatever and this form is all right.

I still think it best to omit safety caps in sockets and fixtures. If the house is used by one person or

(18)

all on one meter the line passing to a fixture in the ceiling can easily be protected by a safety cap in the floor above.

I think that a safety cap for the entire fixture which would be placed in the base attaching the fixture to the wall for chandeliers would be best. We shall have to give notice that these brass covered sockets are to have the safety cap replaced by copper wire or they will be spoiled every time.

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE

(19)

New York, 188

The first annals is
in position at Central
Station.

M. H. H. H.
Chas. L. H. H.

May 15 1882

(1)
T. A. Edison, Esq.
Menlo Park, N.J.

My dear Edison;
Your telegram
at hand. The 250 light
machine's n, in my opinion,
all that could be desired.
There was no cross in the
armature. After the long
run on the 11th the field
was hardly warm although
the binding wire on armature
was hot. You have the note
of the test, which will show
that the current was
greatly in excess of what

(2)
it will be in practice, the
volts throughout test being
very high. The armature
wires themselves were
not too warm. I think it
safe for Deau to go ahead.
While I think of it, you
should order that different
kinds of wire be used for the
Cochran coils on 250 light
machines. They are now of
wrought iron and too light.
Much complaint comes from
the Insulated Co. on account
of them. I have, some time ago,
called Deau's attention to it
but nothing seems to have been

(3)

New York, _____ 188

done. The heavy cast-iron rail, first used, was best.

It has additional advantage from a broad bearing face and will not bind in the grooves in sole-plate.

Deau had no 1/2 cores on hand with which he can try the experiment in the bar armature which you suggest. All things considered, we have thought it best to try it on the 4" cores which he says will be ready on Monday.

~~of which I have 100 in stock~~
~~out of which I have 100 in stock~~

Do you think that

Stewart in ~~his~~ ^{his} ~~order~~ ^{order} will

(4)

New York, _____ 188

want standard batteries, high resistance shunts, galvanometer, bridge &c with the rest of his plant?

It seems to me that with his photometer alone he can do all that is necessary for regulation, if he keeps on it a lamp with a clean globe.

What else would you think he should have?
I think that is all he should have about
if he is properly cautioned about
clean globes.
I wonder as a
frequent at Pearl St. Station.

I find that Stewart includes in his order for meters, all necessary chemicals, and apparatus, so that

(5)

tells me just what to do.

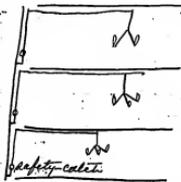
I think that, as Central Stations are established of sufficient magnitude to require meters, a young man educated to the business should go with them as a necessary part of the plant. There are more knicks about the business than can be written but which are readily learned. How does this strike you.

I think it absolutely necessary that young men should be sent who will understand of take charge of the meters.

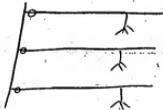
(6)

The sketch shows a method of wiring which I think will overcome the difficulty in respect to dispensing with safety-catches in sockets and fixtures.

Think this
OK



The old method would be



(24)
in which the safety catches
would have to be at the
ceiling or on the floor above.
The first case takes no
more wire and would not
cost much, if any more
to install.

The complaints from
the DeLaird Co. in account
of safety catches in fixtures
are loud. I think we should
do away with them.

Very truly
Yours,
Chas. F. Clark

Form No. 1.

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been accepted by the sender of the following message. Messages not so accepted require only the ordinary charges back to the sending station. In completion, this statement will not hold itself liable for errors or delays in the transmission or delivery of Unrepeated Messages, beyond the amount of fees paid thereon, nor in any case where the cause is not prevented by serious faults and delays in other messages of the same kind.

THIS IS UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. ECKERT, General Manager. NOVIN GREEN, President.

NUMBER	SENT BY	RECD BY	TIME
5	M.A. W.S.		4 Paid
Received at	MILB. 5:25 P.M.		May 19 th 1882.
Directed	New York		
To	J. A. Edwards		
	Monte Park, N.J.		
	coming to Monte tomorrow -		
	Clarke -		

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

46
Clark
RECEIVED May 22 1882
MAY 23 1882
ANSWERED

J. Lusk

FILE NO. 188

Wells, Paul, & P
"Gummy Bear"

I do answer letters,
but after receipt of your
inquiry about drawings
for foreign companies, I
saw you and thought the
personal explanation
sufficient. Mr. Solaan
has had to make new
drawings of everything to
take in all alterations and
had to do it single-handed.
The work has therefore been
slow, but Campbell will
help today and later

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

New York, _____ 188

and you may have the
complete Co. diagrams the
last of this week.

How many copies do
you want and to whom
delivered?

H. Harty
Chas. G. Clark

Form 241.

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been printed on the reverse of the following message. It is not responsible for messages sent by telegraph or otherwise, and does not warrant its service or the accuracy of its records. It is not responsible for messages sent by telegraph or otherwise, and does not warrant its service or the accuracy of its records.

This is an UNRECORDED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. SHERKEL, General Manager.

NORVIN GREEN, President.

NUMBER	SENT BY	RECORDED	CHECK
2	NB	ud.	paid

Received at Th. H. May 25 1882

David May 27/82

To J. A. Edison

shall go to Mulo Park Friday

twenty sixth

Chas J. Clarke

New York, May 27 1882

(1)

File No 9
T. A. Edison, Esq.,
Woolwich Park, N. J.

My dear Edison,

The four inch
cores were tested in my
presence on Saturday and it
looks very much as if we
are left again. Andrews
has sent you the results
which in brief are these:

No load Saturated field. Same speed in both cases	}	1 pair 6" cores - 150 volts.
		2 pair 4" cores - 129 volts.

New York, _____ 188

(2)

The cross section of 1 pair of
6" cores may be represented
by 36, also 2 pair
of 4" cores by 32.

Supposing that the magnetic
strength is proportional to the
cross section, if the six
inch cores give 150 volts
the four inch cores should
give

$$\frac{150 \times 32}{36} = 133.3 \text{ volts,}$$

whereas the actual result
was 129. This is pretty
close to your theory of
cross section of metal
being the important factor
when the cores are of equal

(3)

bought. I shall try the experiment again today and look out carefully for bugs.

I do not think it well to give the thing up and would advise trying cores made of 6" wrought iron steam pipe as thick as can be bought.

Thompson (not Mr. Mee) says that tubes of sufficient thickness "are about as strong as a solid cylinder."

By trying the experiment on 6" steam pipe of a certain thickness we shall get a

(4)

direct comparison with the 6" cores.

I have told Dean that in view of the result of Saturday's test it will be well to hold on the experiment in Dynamometer & put the bearing from you.

Yrs. truly,
Chas. F. Clarke

New York, May 31 1882

(1)
J. H. Edison, Esq.
Meado Park, N. J.

My dear Edison,

I have note
to me in reference to the
book of instructions and
asked for any suggestions
on a revision.

I have look the book
over carefully and my
suggestions are as follows:—
1st Omit the description of
the armature by the wheel
analogy, page 8.

Know how an armature is
wound but can't under-
stand that description or
get from it any idea as to

New York, _____ 188

(2)
that an armature is like.
It seems unnecessary.
2nd Rewrite the article
on the lamp socket, page 27,
as that has all been changed.
3rd Since we have no
regulator at present we
use it might be well to
omit that description, which
is rather more of a notification
than a description of the
same. If needed let it be
modified to suit the new
regulator and so written that
parties will know how to
use it.

(3)

4th On page 46 omit reference to table because it does not give results in 'Civ. mils, or met' civ-mils and state gauge of wire in its steel.

I do not find the term "Civ. mil" explained. It seems necessary, and also the statement the square of the diam. of a wire expressed in thousands of an inch will give the number of civ. mils in it.

Example: - What is the number of Civ. mils in a No. 18 wire B.W.G.

Ans: - Diam. = $\frac{.29}{1000}$.

$49 \times 49 = 2401$ Civ. mils.

(4)

5th The following rule should be inserted under the heading on page 49.

To find the number of civ. mils in a conductor which is to supply a known number of lamps at a given distance from the dynamo and with a decided loss of energy in the conductor of a certain per cent.

Example Rule: - Subtract the per cent. of loss in the conductor from 100, multiply the remainder by 10,33, the product by twice the distance of the lamps from the machine, and this product again by the number of lamps. Divide the final result by

(5)

the product of the per cent. of loss and the resistance of one lamp.

Example:— How many cir. mils will be required in a conductor to supply 150 A lamps at a distance of 300 feet from the dynamo and with a loss of 2%?

$$100 - 2 = 98 \text{ then}$$

$$\text{Cir. mils} = \frac{98 \times 10,33 \times 2 \times 300 \times 150}{2 \times 140}$$

(140 ohms is the resistance of an A lamp.)

$$\begin{aligned} \text{Cir. mils} &= \frac{911106000}{280} \\ &= 325395 \end{aligned}$$

In No. 10 wire there are 795% and 16 strands would make a cable with but 217 cir. mils, ~~less~~ than required.

(6)

6th Give directions for the loss (5%) up to the first lamp, and from that point to the last lamp only 2%. This is a point which should be made clear.

7th Publish the list of safety-calcite wires &c substantially as published, Detroit, in bulletin No. 1. and insert under heading "Safety devices" page 57.
8th Add leakage (high resistance cross) or even low resist. cross) as a cause for hot armatures page 76.

(7)

9th The tables published in the book are for 5% loss, these should be left in as they are. I have not had time of course to go over all the figures but have taken samples at random to see if they would agree with the table and thus prove the principles upon which they are calculated to be correct.

The 2% tables should be included in new edition. I enclose a set of same.

Yrs truly

Chas. H. Blakely

THE WESTERN UNION TELEGRAPH COMPANY

The Company TRANSMITS and DELIVERS messages only on condition, limiting the liability, which has
been accepted by the Government of the United States.
Messages may be received and sent by telegraph in accordance with the regulations of the Department, and the Com-
pany assumes no liability for the accuracy of the transmission, or delivery of messages sent by telegraph.
Messages sent by telegraph are subject to the regulations of the Department of the Interior, and the United States
Government.

A. H. BEEVER, Secy.

NORTH GREEN, President.

6 Dated New York Ct 1888

Received of W.P.
W. H. Edison

READ THE NOTICE AT THE TOP.

shall be at Meulo
Pinto tomorrow
to L Clark
at 5 Road
2 6:30 pm

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

New York, *1 June* 188*2*

Mr. Samuel Insull

Dear Sir -

Will you please
send order for ~~the~~ Blue Prints
of C. dynamos for Paris &
London Companies as soon as
possible. They are all ready,
also order for any drawings for
above companies that you may
have ordered verbally from me

Yours &c

Charles L. Clarke
per Drumham

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

New York, *2 June* 188*2*

9
Charles

Mr. J. A. Edison

Menlo Park

Dear Sir -

I Enclose two bills from
Machine Works for Repairing & Testing
P.A. Engines & for Testing C. dynamos.
Should not this work be done at
the expense of the Machine Works? I
think it should. Please let me
have your comments with the bills
as soon as possible.

Very truly Yours
Charles L. Clarke
per Drumham

EDISON MACHINE WORKS.

104 Goerck Street,

New York. *June 3 1882*

*Answer
6 of June 27
2, 210 22
10 6 300 2. 27
J. H. Edison, Esq.
2 2 2
2 4 2
2 2 2
2 2 2
2 2 2*

de Menlo Park, N. J.

My dear Edison:

This afternoon

Andrew in testing finds a K armature which is correct with the base.

It measures 1500 ohms and gives quite a spark on breaking copper and copper. The C. C. L. Co. assumes no responsibility, in testing dynamos for foreign shipment, excepting to the extent of correctly reporting the results to the Machine Works. They can then do as seems best to them. Armatures which are tested when green have been found faulty and became perfect after a few days. This may be a common case but there is a possibility of its being a permanent one which may occur. Andrew never passed a K which measured less than 3000 ohms. Will you let the Menlo Works immediately select if they shall ship the armature as it stands or await. I also seek an expression of your opinion on this point and what should be done and what steps should be taken from the results at times, if any, being
Chas. L. DeLoach.

New York, June 3, 1882

Ed. W.

A. U. Edison, Esq.,

Merch. Park, N. Y.

My dear Edison,

You have so easily
agreed to the abolition of
a safety catch in the
sockets and fixtures. Will
you please state your
agreement in writing so
that should the matter
come up later I can show
that you have been con-
sulted, although the change
is made in my authority.
No touch circuit however is to
be left unprotected by a
safety-catch, and the

New York, _____ 188

(2)
smallest copper conductors
in the circuit which is
thus protected must be
of a size which will
melt the "catch" without
themselves becoming
more than slightly warm.

I must speak of the
rabbit in the bearing of
the smaller dynamo.
E. H. In many cases it
comes to a very thin edge
at the end of the bearings.
The recess in the holes for
its reception should be
deep way to the very
edge. I think it one

(3)

of the causes for wearing
out of boxes complained
of by the Isolated Co,
there not being enough
tubette in some cases
to allow of much wear.

I would call your
attention to a proposed
alteration in C dynamos,
namely to construct the
hub in which brush holders
rest so that the caps can
be removed without taking
brush holder apart.

Very truly,
Chas. L. Blodgett

(3)

Remember of your speaking
to Dean about it once but
the change does not seem
to have been made.

The lower one I think would
be better if constructed
without the slots, merely
two flat plates, by soldering
washers in the ends of the
wires leading from the
brushes to the shunt board,
with a hole large enough
for the top bolt the construction
could be best made. This
construction is as in the D.

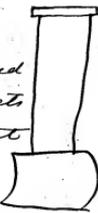
Thus



(4)

An omission has also been
made which is bad.

The fiber washer
at the top has
been omitted and
when the magnets
are taken apart
to get them in
position, as is



in nearly every case necessary,
the wire slips off. This occurred
at Morgan's house. I think
it an unwise omission.

It is stated that the pins
A and B (see second sketch
page 2), sometimes will not
make good contact, that is

(5)

me of them will not. I said that it could not be well remedied but in one of the points about the proper care of which parties must learn and be instructed. What say you? We cannot expect to make the machines so that they will run themselves, some intelligence and care is expected from parties operating any machine.

The Doctor also speaks of the two belt tighteners and desires them to be geared together in some way so that from either, one man can

(6)

operate both simultaneously. I stated that to be a refinement not to be expected from the builders of the machines or from the Engineering Dept. That each case would probably be special and they should foresee and provide for such in their bids. An agent called on me with an oil corp. I was struck with the common sense of the thing immediately and wished to put them on trial at Fifth Ave. In speaking about the cup to the Doctor I find they are

(4)

using it and with extreme
satisfaction and that they
use one third the oil con-
sumed by the cup furnished
by the Machine Works. It is
a right feed, metallic cup
made by the New England
Gauge Co. 376 Atlantic Ave.
Boston Mass. The isolated
prefer it to any other.

Had not you better write the
Machine Works to order same?

Small telegraph June 7
about C. K. E dynamo
drawings.

C is complete,
K is complete and I will
inspect the drawings and

(8)

have blue prints made if
you will tell the Machine
Works to send tracings to me.

The E machine is not
bushed, although Jordan
can go ahead w it.

You wished to wait until
its dimensions were changed.

Yours truly,

Chas. H. Clarke

P.S. Some experimental brushes
for K dynamo, like Z brushes
should be made, but of heavy
wire, and thick, and as wide as
C brush. Chas.

9
New York, June 8, 1882

Merke

W.A. Edison, Esq.,
Wheeler Park, N. Y.

My dear Edison,

You know that
it is proposed in the
later lots of **Colyman's**
to construct the brush
holder arms so that the
Cap. can be removed
without any trouble.

Do you not think I had
best have drawings made
here first? The machine is
so well perfected that I see
little need of any more
jack-knife work. I am
turning all hands up to

New York, 1882

every exertion to complete the
Central Station.

Yours truly,

Chas. H. Hunt.

New York, June 9 1892

9
C. W. K.

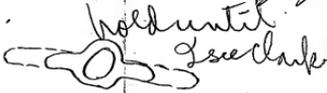
J. A. Edison, Esq.

Windsor Park, N. Y.

My dear Edison,

Draw has all the data for the 150 light dynamos. I feel confident that the machine will be a success.

The E machine should be modified immediately in the brush holder springing arm.



It is so short that it brings the brush holder too close to the commutator and makes

New York, _____ 189

the working space very much cramped.

Do not you think it time to get a Dept. for the 1st Dist.? I have a man in view. We should have me at the start so that he can be with us and see the trials and failures from the beginning. If we wait until the platform is in good order, then he will not know what steps to take in case of trouble. This will apply particularly to the Street system and regulating

(3)

apparatus, switches &c.

What salary have you in
mind for a man suited
to the place. We would have
to make a contract for a
year with a man of
necessary calibre.

Some more trouble with
Pater's engine - piston rings.
Pater has been sent for.

It is a matter which can
of course be rectified but
want to consult Pater
on way he would wish
it done. Rings are ridiculously
narrow and weak, con-
sequently break. Pistons

(4)

never should have been
made to have so much
clearance in cylinders.

I think the C bushes
should be tried (experimentally)
wider and of finer wire.
If you agree please give
orders to Mach. Wks to make
a pair.

Yr. truly,

Chas. H. Black

New York, June 13, 1888

Cable

J. A. Edison, Esq.,
Windsor Park, W. I.
My dear Edison,

What do you
say to having the fixtures
inside the meter cast
in a mould from zinc?
They can be made large
and strong and very
neat. They are now
of brass. I have of my
former letters, especially
the matter of a Duft.
for 1st dist., are not answered
yet. That Mr. Lavery from
London impresses me favorably.
I am making inquiries

THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE.

New York, _____ 188

Concerning him:

Yr truly,

Wm. A. Edison

of course we must have a supt
but it is a delicate job. Ask Dean
about living he used to know him
the more I see of that chief Eyer
you get have the less I believe in
him; he talks too much; better
get men out trial & also make
careful inquiries, of course
when we start the station, Hood
perhaps another can be
spared from 4 pm to 7 or 8
per until you have the right
men; Why do you want
the parts of Zinc

9
THE EDISON ELECTRIC LIGHT CO.,
2 FIFTH AVENUE.

New York, June 14, 1882.

Atlantic

Samuel Insull, Esq.,

Windsor Park, N.Y.

Dear Sam:

Will you

please get from Edison
replies to my letters. He
is considerably behind about
there are many questions
of importance to me to have
answered.

Yr truly

Chas. F. Clarke

THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE.

New York,

9
June 11, 1882

Clarke

J. A. Edison, Esq.

Menlo Park, N. J.

My dear Edison,

I have written
a fortnight written Batch.
two long letters in reference
to wiring, safety-calculation,
connecting up dynamo &c.,
and shall continue the
correspondence. Please let
me know the following.

In estimating air con-
ductors for transmission
of power in mountainous
districts what do you
consider to be the safe,
and proper E. M. F. to use

THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE.

New York, _____ 188

, and not so great as to
make the armatures liable
to cross?

Yr
to party.

Chas. F. Clarke

Increased Emf don't
weaken the armatures cross
to the short cktg causing
heavy load that does
the big & this heavy load is
terrible when there is a
high Emf. I think 1000
Volts for working cases
+ never higher than 1500

New York, June 17, 1882

Clarke

T. A. Edison, Esq.

Wenona Park, N. J.

My dear Edison,

Forms of 162
per Invoice n at hand.

In reference to small
matters in construction of
dynamos, such as fibre
rings, slot in brush-holder
&c I inform you of these
matters as they come up
so that you will know
the results of inspection
and commission and com-
plaints made, and that
you may make such
modifications as appear best.

THE EDISON ELECTRIC LIGHT CO.,
25 FIFTH AVENUE.

New York, _____ 188

(2)
I shall, in connection with
Mr. Moore's drawings,
made when there is time,
of the sole-plate - pillow
blocks, and brush-holder
• arise. Mr. Moore, by this
time, should have gained
experience in practical working
of the machines which ought
to be of value.

As to a Supt. my idea is
a thoroughly mechanical
man who proves his executive
ability by the position he
now holds. He will have
to be middle aged, experienced
and cool headed.

(3)

Dean, as is his usual way with most every one, does not speak well of Leary, but says he is a first class letter.

I like his appearance however, and he is a first class mechanic. He will probably be taken by Bergmanns at present. I have a man in view for Supt. whom I would like to bring to see you and also Wagn Eaton if you think it well, interview being always more satisfactory than letters. I met the

(4)

gentleman at the instance of Byllesby, who came to us from the works over which that man is Supt. He has the appearance that indicates a man accustomed to keeping an establishment in running order. We want talent of this kind, which does not chafe under routine. I send you the best letters respecting both Mr. Leary and Mr. Cook. Both have indorsement which is essential for such a position—namely as to character. Let us hear from you about this.

(5)

We should have the man
from the start.

I do not want the meter
parts of zinc. It is a
suggestion from Heigmann
& cheapen the casting by
using moulds and make
work which will take well
without any finishing.

The model is going on in
Paris. I shall order on the
strength of patterns.

He made me two sets of
meter plates, for standards.

No two duplicate parts were
anywhere alike. I thought
him up sharply for it

(6)

and now gauges are being
made for the work.

That engineer for Central
Station is a first class
man for present purpose.

I shall have Hood and
probably Reeves for a time
but the Dept. must be
obtained before any lighting
is done outside and then
the question of engineer's
should be left to him.

Wagon is a good man, but
unfortunately too much
exhibition of his knowledge
in the place where he is,
is sure to bring any man

(7)

into despair. If Porter
does not turn up today I
shall see him in Philadelphia.

I think he is entirely wrong
in talking about new
cylinders and that it is
the piston which gives the
trouble. Anyhow we shall
go ahead at Central Station
when the dynamis are
turned over to the Company
and make necessary
changes, provisional.

The minor equipment of
Central Station is being pushed
rapidly. The "musee"
Deprez galvanometer of

(8)

high resistance which I had
made was a success, about
as sensitive as the tripod
mirror Thompson. I am
having a portable one
made now for E.M.F.,
and am designing one
on Deprez principle for
reading the rebers going
out of Central Station.

Will be out to see
you the first of the next.

Yr. truly,
Oliver S. Heister

THE EDISON ELECTRIC LIGHT CO.,
8 FIFTH AVENUE.

New York, June 21, 1882.

9
Alice

J. Russell, Esq.

Windsor Park, N. J.

My dear Russell,

Please see
that Edison does not forget
to let the wires leading to
Lamp Factory remain, so
that we can get current
there for Underwriters tests.

I don't wish to worry
you too much but I would
like these books of mine
on steam as they are all I
have and I expect them for
reference of you. Very truly,

Edison

New York, June 26, 1882

T. A. Edison, Esq.

West Park, N. Y.

My dear Edison

A few days ago you spoke to me of doing away with belting a gear in motors by winding the armature of higher resist. This of course will work but I find it open to serious objections because with an armature of given resist it greatly reduces its capacity for work. Suppose for example a central station system with 100 volts upon the

THE EDISON ELECTRIC LIGHT CO.,
35 FIFTH AVENUE.

New York, _____ 1882

line and the wires leading from the house to the motor have an inappreciable resistance.

The capacity of a 2 A ($\frac{14}{100}$ ohms) to do continuous work will be 6.1 H.P. with 93.2% conversion.

Capacity of 2 B ($\frac{35}{1000}$ ohms) 12.6 H.P. 96.6% conversion.

What do you say to this?

Yr truly

Edison

Why do the Americans spend more than 5% of the power of the A's? The theoretical eff. of the A's and of the B's are the same. The A's should spend the money of the B's.

Ed. Machine works
THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE

New York, June 30, 1887

My dear Russell,

I return plain a diagram with explanation of new one which I thought it best to make.

On looking over the original figures I found inaccuracies.

The new diagram is essentially like the old one and better taken in connection with the explanation.

Yours truly,
Chas. H. Clarke

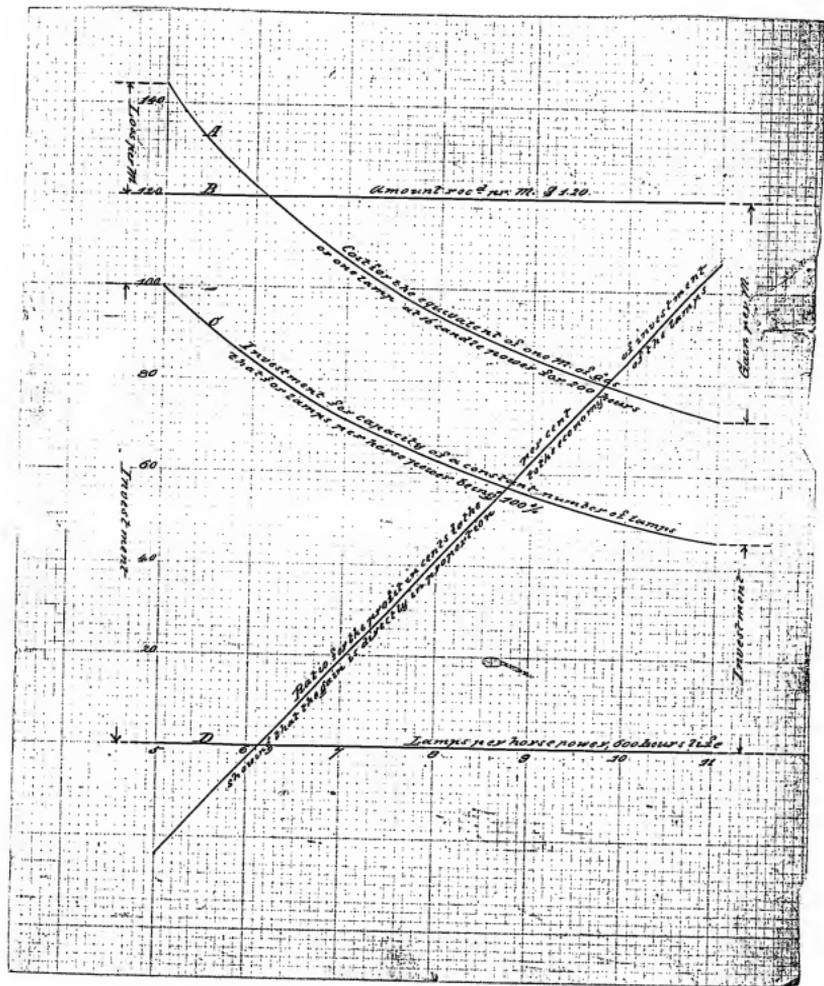
THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE

New York, June 30, 1887

My dear Russell,

Will you please get Cousin to sign and return to me. Have him sign under proper. I thought it would leave no time to put him first, considering our relations.

Yours truly,
Chas. H. Clarke



Explanation of diagram showing advantage
commercially of high economy of lamps if the
life can be maintained constant.

It is a fact that with all other factors the
same, any increase in the economy of lamps
decreases their life, but the goal end to be
attained, with reasonable endurance of the
life of the lamp, is to increase the economy,
for besides decreasing the direct running
expenses it diminishes the investments and
depreciations for a plant with a given lamp
capacity.

The statements assumed are based upon
approximate estimates and would vary under
different conditions, but the diagram fully
illustrates the principle which should be
maintained.

The investment is assumed as \$200.00
per H.P. capacity and includes central

station plants with all appliances and underground conductors.

The lowest economy that it has been considered necessary to consider is 5 lamps per H.P. and therefore this would give the maximum investment for a given lamp capacity.

With 8 lamps per H.P. the investments would be $\frac{5}{8}$ of that for 5 lamps per H.P. for same total number of lamps, with 10 per H.P. investments one-half and so on, hence:—

[Curve of Investments represents the relative investments for varying lamp economy. For instance if investments for 5 lamps per H.P. is 100 per cent, investments for 10 lamps per H.P. will be 50 per cent and so on.]

The coal is assumed at \$5.00 per ton of 2240 lbs. and 3 lbs per H.P. per hour.

One lamp of 16 candle power is assumed equal to a gas burner consuming 5 cu. ft. per hour. One burner would therefore take $\frac{1000}{5} = 200$ hours to consume one M of gas. To generate 1 H.P. for the 200 hours would require $200 \times 3 = 600$ lbs of coal costing

$$\frac{600}{2240} @ \$5.00 = \$1.34$$

Cost of Coal per M. If therefore we have one lamp per H.P. the coal to produce the same amount of light for the same time as one M of gas will cost \$1.34

With 5 Lamps per H.P. the coal will cost $\frac{1.34}{5} = \$0.27$ per M (or the equivalent thereof).

With 10 Lamps per H.P. coal costs $\frac{1}{2} \times 1.34$ per M and so on.

It has been found that one lamp must be in operation at 16 candle power for 200 hours to give the equivalent of light of one M of gas, and the life at the different

rates of economy being assumed as constantly
600 hours, we have :-

Cost of Lamp per H.P. will be $\frac{1}{3}$ cost of a
lamp at $\$0.35 = \0.117

The investment has been assumed as $\$200.00$
per H.P. and we will assume a general
depreciation of 3 per cent, also that the
lamps burn 2 hours per day for the entire
year. The depreciation of investments for
one H.P. for one year will therefore amount
to $\$6.00$. If there is one lamp per H.P.
the time taken for one lamp to give the
equivalent of one H.P. of Gas (200 hours at
2 hours per day) will be 100 days.

Depreciation per H.P. . The depreciation for this
time will be $\frac{100}{365} @ 3\% = \1.64 .

It is readily seen from this that the depreciation
with 5 lamps per H.P. will be $\$0.328$ per H.P.
because the investments and consequent

5
depreciation would only be $\frac{1}{10}$ as much as for lamps of 1 per H.P.

With 10 lamps per H.P. the depreciation will be $\frac{1}{10}$.16 and so on.

Running expenses per H.P.

The running expenses were found to average \$3.60 for 1 H.P. for 100 days (2 hours in operation per day). With one lamp per H.P. the operating expenses per H.P. (200 hours, 2 hours per day) would therefore be \$3.60, with 5 lamps per H.P. $\frac{1}{5}$.72 per H.P. and so on.

It has therefore been found that Cost of Coal, depreciation and Running Expenses per H.P. vary with the economy of the lamp but that cost of lamps per H.P. does not vary.

The cost of one H.P. for one lamp per H.P. is.

Coal \$1.34
 Depreciation 1.64
 Running Expenses 3.60
6.58

Cost of Lamp 0.12

Total Cost per H.P. \$6.70 one lamp per H.P.

From these items a table of cost per H.P.
 for lamps of different economy can be made.
 Curve of Total Cost per H.P.

Lamps per horse power

	5	6	7	8	9	10	11
	5/6.58	6/6.58	7/6.58	8/6.58	9/6.58	10/6.58	11/6.58
Cost per H.P.	.82	1.10	.94	.82	.73	.66	.60
" of lamp	.12	.12	.12	.12	.12	.12	.12
	1.44	1.22	1.06	.94	.85	.78	.72

From this table the Curve of Total Cost
 per H.P. has been constructed.

7

Curve of ratio of profits to investment.
If we divide the profits in cents, which is the difference between the amount of $\% .20$ received and the cost per H.P. , by the per cents of investment the results will show the ratio by which the profits increased, and being a straight line it shows that the profits derived will, in any case, vary directly as the economy of the lamps.

Without further explanation the nature of this curve might be deceiving and one might be lead to suppose that the curve represents the actual per cent. for dividends, which is not the case.

The curve A crosses B on the same vertical line that E crosses D. The first shows that with 6% lamps per H.P. the cost equals the price obtained, and the second shows, as it should, that there is no profit.

With 6% lamps per H.P. the vertical distance between D and E is one division and with 11 lamps per H.P. 53 divisions which means that the profits in the first case is only $\frac{1}{53}$ part of the profits in the second place on their respective investments. The difference between D and E below D represents loss, that above D gain.

According to the diagram the actual per cent profits on the investments even with 11 lamps per H.P. will be small.

For example: - The actual cost per H.P. will be $\$0.72$ and since one lamp must burn 200 hours to give this amount and there are only assumed $365 \times 2 = 730$ hours in the year, one lamp will only give 3.65 H.P. 's in a year or a total of $3.65 \times 11 = 40.15 \text{ H.P.}$'s for the 11 lamps requiring one H.P. at $\$200$ investments.

The profits per Ht will be $\$1.20 - 0.72 = \0.48
or a total of $\$19.27\%$, a profit of 9%
per cent only. But it must be remembered
that the purpose of the diagram is not to
show the actual per cent of profits but
simply to prove the very rapid gain in
profits by increased lamp economy, and this
purpose has been attained.

For representing the actual conditions; the
investment has been assumed much too
great and also the running expenses.

The cost of fuel is much greater than will
actually be the case for proper fuel, excepting
when we are obliged to use gas coal, in
which case we shall stand on a par with
gas companies in this respect.

The price charged per Ht is very low;
and the hours operation per day is at
least 50 per cent below the actual average

during which the plant should be productive,
which should be increased 100 per cent.

With these disadvantageous assumptions
it will be observed that the plant could
be operated without loss with lamps 6%
per H.P., and that with 8 per H.P., which
is the present economy as supplied from a
central station, the cost of production will
be 10.94 per M.

The difference between A and B above
B is the loss per M in cents, below B
it is the gain per M.

It is easily seen that the diagram
holds good and will be true whether
we consider that the number of lamps
is constant and the investment
decreases with increase of lamp
economy; or that the investment
is constant and the total number

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

11

New York, 1882

of lamps increases with increase of
Economy.

Chas. F. Abbott
Engineering Dept.
Edison E. Light Co.
June 30 - 1882.

THE EDISON ELECTRIC LIGHT CO.,
8 FIFTH AVENUE.

9

New York, July 10 1882

J. A. Edson

Alaska

Mr. T. A. Edison,

Woods Park, N. J.

My dear Edison,

For the purpose

of making estimates for
Central Stations which I
am doing on the basis of
12 lamps per h. p. and
320 amp resistance, I
calculated the C dynamo.

It would have to be changed
from 98 bars to 134 and
if we assume the nominal
capacity now to be 1200 lamps
it will increase to 1400.

What do you say to this? Yr truly

Chas. F. Alcock

THE EDISON ELECTRIC LIGHT CO.,
8 FIFTH AVENUE.

New York, July 15 1882

Mr. T. A. Edison,

Woods Park, N. J.

My dear Edison,

I considered the
test of the 2 machines to be
satisfactory. The armature
according to Andrews was
somewhat warmer than a
K at 250 lights in same
length of time, but the work
on lamps averaged 108 whereas
the lamps required only 100.

Chas. F. Alcock

Chas. F. Alcock

New York,

July 17 1882

My dear Edison;

I forgot to state that Lieb has struck a good form of standard cell. It is like the ordinary one excepting that the zinc plate is also in a porous cup, which must be new in the beginning. The sample has stood nearly a fortnight without change.

Do you want the thermos lamp in meter to come on the Company's or consumer's side?

Consumer's side

Yours truly,
Chas. F. Blakely

New York,

July 17 1882

Mr. T. A. Edison,

Windsor Park, Va.

Dear Sir,

Bergmann & Co.

bid as follows in meters -

Meter complete \$6.75

Zincs per pair 0.35

Rubber fixtures for same 0.65

Shall I give the order for 400 meters and 1000 pairs of plates & fixtures?

Yours truly,
Chas. F. Blakely

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

New York,

July 19 1882

Mr. T. A. Edison,

Windsor Park, N. D.

Dear Sir:

The vice pres. want
a sewing machine motor
in exhibition here. I have
we consider the old type
and have Pugsman
make one or do you
wish to remodel it.

I think it would be a
good plan to have a piece
we made at Windsor
Park to attach directly to
the machine.

Very truly
yours

Chas. L. Blauvelt

*Please you will have
to send the plans
to about the
particular you
mean.*

New York, July 19, 1882

Mr. T. A. Edison,

Wenatchee Park, W. T.

My dear Edison,

In transmitting power in the country is in fact on lamp basis I do not believe in using a ground circuit. Do you? I wish to know your policy in this regard.

I am getting up a series of ~~calculations~~ for central Sta. and am basing them upon 320 ohm lamp, 140 volts - 12 per cent and C dynamics of 1400 of these lamps capacity.

New York, _____ 1882

(2)

also that the district is one half a mile square. I think it best to keep within these limits rather than to run out further and then lose the advantage which the high resist. lamp gives us. What do you say?

I believe in a sub. station

Have written you several letters since your absence. Please note contents and answer the questions.

Glad to hear of your safe return and improved health and weight.

Very truly
Yours,
Chas. F. Deland

THE EDISON ELECTRIC LIGHT CO.,
67 FIFTH AVENUE

New York, _____ 188

P.S. Shall I appoint any
day for the person whom
I have in view for Sept.
to meet you with view
and notify you of time
appointed?

Yes

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

New York, July 20 1882

Wm. Edison, Esq.
Windsor Park, N. J.
My dear Edison:
Have sent

you meter - will send
bottles as soon as I have them.
Bergman is hurrying up
the pressure indicators and
I will send three when
completed.

Very truly
yours

Chas. A. Hall

New York, July 21 1882

acc'd
July 21
W. L. Edison, Esq.

Windsor Park, N. J.

My dear Edison,

The aggregate
cost of a 25-light meter
will be \$7.75, exclusive of
bottle with stopper, adjusting
shunt and compensating
resistances, and amalgamating
joints, lagging copper wires
&c also wooden back.
If the aggregate cost is \$10.00
or 40¢ per light this affords
some basis for estimates of
meters for a district. It is
evident however that we shall
have to put in meter capacity

(2)
New York, 188

much in excess of station
capacity. What excess over
station capacity do you
think it best to assume
and also cost of meter
per lamp?

What do you say to
dipping the wooden back
of the meter, after thorough
drying, in boiled linseed
oil, or painting with Keweenaw
paper? I think the inside
should be painted or papered,
as well as the outside.

After the meter cases have
been papered inside and
baked they should also be

(3)

Painted inside with Kruesi's
 Japan to prevent rust.
 It will also diminish liability
 to short circuits inside with
 the flexible wires connecting
 to bottles. Please let me
 know definitely your views
 as I want to hold Pergamon
 close on this job.

Have you power to write
 me orders to deliver to the
 Paris Co? If not I will
 write to Hatchell.

I would like an open order
 to send to both London &
 Paris such drawings as
 may be deemed of use to

(4)

them as they are finished,
 also samples of such
 apparatus as is perfected
 and adopted by us,
 charging same to them.
 It would facilitate matters
 I think, and if the privilege
 is abused you can caution
 or withdraw.

Send all drawings
 to London & to Hatchell
 but for samples let their
 orders come
 then to me as we are
 and keeping books
 & transmit all
 their biz here

New York, July 25 1887

W
and the
Eng.
W. Russell, Esq.

Windsor Park, N.Y.

My dear Sir,

Will you

please read this and give
the substance to Mr. Edison.

It is only just to the young
man?

Your general order
for drawings, &c. rec'd. Thank

W. Russell

Chas. L. Clarke

New York, 26 July 1887

46

Send to
W. Russell
Windsor Park
near Erie

near Erie

Had I not better

have a set of meter plate gages
made for London and Paris?

Costs with case about
\$10. per set.

Yours tc
Charles L. Clarke
per Burnham

Foreign Order No.

New York,

July 28 1882

J. A. Edison, Esq.

Mercer Park, N. Y.

My dear Edison,

Here is the
new meter bottle which
I consider about perfect.

It holds more solution
than the old bottle and
therefore the appearance
of gas due to acidity
will not appear so soon.

One change is necessary
which I hope you will
approve - namely - to
increase the thickness of
stopper in the middle
so as to have more hold

New York,

188

for the cords in the
small holes. Let me
know immediately if
I shall give the word
to go ahead.

Very truly
Yours,
J. A. Edison

New York, 29 July 1882

Mr. J. A. Edison

Menlo Park, N. J.

Dear Sir

I have your telegram of this date, and will have meter forwarded immediately. I gave an order some time since to have a 25 to 50 light meter sent to you. Have you not received them, or is this an additional order.

Yours &c

Charles L. Blake
per Dunham

Warr!

New York, July 29 1882

J. A. Edison, Esq.

Menlo Park, N. J.

My dear Edison,

I am having

two dozen standard hydrometers made for our standard sulphate of zinc solution, correct at 15.5°C. Will you give me order to send London & Paris Cos. three each?

I am sample in
with

[Signature]

Charles L. Blake

New York, July 29, 1882

T. A. Edison, Esq.

Windsor Park, N. J.

My dear Edison,

I want your opinion - Parties want power at distance of several miles. It is out of question when operating under no more than 1100 volts because of cost of conductor, and if I reduce the size in order to lessen cost it reduces the capacity of plant too much in comparison with cost of same amount of resistance.

of course the dynamo & motor are to be as
small as possible & the magnets are to be as
small as possible

New York, 188

(2)

Why cannot the dynamos and motors be in series thus giving high pressure and maintaining the efficiency and capacity constant and at same time reducing conductor. High pressure is the only way to do it, and machines in series alone will give the pressure. I do not think it well to increase the pressure of each machine above what we have it now for many reasons. Do you object to the

(3)

series plan? Now had
any other ideas than the
Series plan -

Again - Suppose we
have 750 lights -
This will take 3 K
dynamo. Now I hold
that we should have
a spare dynamo.

A spare armature
would not meet the
requirements, because
if 750 lights are on
and one machine
fails we should not
have two machines in
operation while spare

(4)

armature is being put in
and they could not
do the work ^{Yes they would} the 750 or take
^{simply burn down} the point is this was
^{some off with the armature} that we should have
such a plant that if
any one machine fails
another can be instantly
substituted and the
capacity will not fall
below the nominal.
Shall we also have
the spare armatures?
What say you to my
views? Noting

Chas. F. Stewart

THE EDISON ELECTRIC LIGHT CO.,
45 FIFTH AVENUE.

New York,

37-

36 July

1882

Clarke

Mr. J. A. Edison

Menlo Park, N. J.

Dear Sir -

Mr. Jos. Cashes the man
we have in view for Supt. 1st. Dist.
has appointed Wednesday 2. Aug.
to meet us at 60-5. ave. He will
be here in the forenoon and will
probably see Mr. Eaton then.

You can see him at that time
or at the Central Station in the
afternoon.

Yours
Charles L. Clarke
per Burnham

Aug. 1/86

Mr. Edison

This is the note
of which I spoke last
night. As you said
at the time, I do not think
it came from your last
firm sense of the affairs
of the Company, why I think
so is because Johnson is
mentioned, which as had it
originated with you, your
request would only have in-
cluded yourself. The request
is fair and I shall take
it in the proper, common
sense spirit and, as Mr. Van
Buren suggests, I can certainly

have no objections.

It is well to have all steps involving a departure from the old system properly stated in writing, so that the responsibility can be placed, and it can be ascertained if due discretion has been used and proper parties consulted.

I wish you however to bear witness if you care, to the fact that I am painstaking with reference to this ^{matter} especially and in detail, that I later particularly attention to consult you on all all points pertaining to your system and never take on to have taken the initiative step without your assent.

Can you do this?

~~Yours~~
Chas. F. Schmitt

9
New York, Aug. 1 1882

W. A. Edison, Esq.
Windsor Park, N. J.

My dear Edison,

Johnson

gives me a letter from
Mr. Fleming of London
and has among other
requests asked me to
give you, if whatever may
be of interest and new
for a lecture before the
B. A. S. I do not
want to go to the trouble
of writing anything which
could not be sent as
interfering with the
interest of your foreign
patents and the like.

New York, _____ 1882

would ask if it would
not be wrong to say
anything about your
Central Station's field
and feeder regulators
or anything about the
automate? In fact
outside this I do not
see what we can tell
him that is fresh as
we have no data of
Central Sta. operations
which will ever com-
pare with them.

Very truly

Chas. J. Johnson

Referring to your copy of 1st class
state that we
cannot give

data for two or
three weeks - that
is until the status
is started

...

...

Form No. 1

THE WESTERN UNION TELEGRAPH COMPANY.

The Company TRANSMITS and DELIVERS messages only on conditions limiting the liability, which have been accepted by the sender of the following message, in case of a delayed message only by receipt of receipt book, or in the absence thereof for acknowledgment, and the company will not be held liable for errors or delay in the delivery of messages. Corresponding Messages, beyond the amount of cable post charges, and in any case where the claim is not presented in writing within sixty days. This is not THREE PAGES MESSAGE, and is delivered by request of the sender, under the conditions stated above.

NOELVIN GREEN, President.

NUMBER	SENT BY	RECD BY	CHARGE
3	<i>[initials]</i>	6	11 Paid

Received at Menlo Park Depot Aug 2 1882

From New York 2

To J. H. Leonard

Menlo Park

Where you will find your this

afternoon reply at Central

Station

Charles L. Greene

[Handwritten marks]

ESTIMATE

— of —

Cost and Weight

— of —

A Central Station Plant and Underground Conductors.

— for the —

Edison System of Electric Lighting

Capacity of this plant

14,500 Lamps of 16 Candles power each,
actually burning all at the same time.

Engineering Department,
Edison Electric Light Co,
65 Fifth Ave., New York,
August 3rd, 1882.

Cost of Central Station Plant.

F. O. B. in New York, Aug. 3, 1882.

Steam Dynamos:

12 dynamos (nominal capacity 1200 lamps each of 16 candle power) @ \$5,000 ⁰⁰	\$60,000.00
Duplicate parts	500.00
12 Engines @ \$2,000 ⁰⁰	24,000.00
Foundations @ \$400 ⁰⁰	<u>4,800.00</u>
	\$72,500.00

Boilers:

8 boilers - Babcock and Wilcox sectional 2,500 horse power each	\$33,000.00
Setting boilers	3,200.00
14 Smoke stacks	2,200.00
Stack foundations and flues	1,400.00
Hoods at roof	400.00
8 dumper regulators	320.00
Stack covering	<u>200.00</u>
	\$40,500.00

Iron Structure
~ for ~
Supporting Boilers.

(Boilers in second floor)

Iron floor beams	\$2,210.00
9 columns with base & head	1,220.00
9 girders	3,200.00
Bolts, Tie Rods &c.	150.00
Bricks filling between floor beams	1,320.00
Concrete over brick floor	110.00
Brick piers for columns	360.00
Iron stairs	<u>75.00</u>

\$8,645.00

Piping:

Main Steam Pipes & Valves	\$2,300.00
Main Exhaust Pipes and Valves	2,500.00
Auxiliary Steam and Feed Water pipes	335.00
General drains, drips & blow off pipes	300.00
Water system for cooling dynamo grounds	175.00
Reast. pipes for dynamos	600.00
Sheet iron exhaust pipes to roof	250.00
Covering for main & auxiliary Steam pipes	600.00
Covering for exhaust pipes	<u>500.00</u>

\$8,050.00

Auxiliary Plant.

2 Feed-water heaters	\$2,400.00
2 Steam pumps 8' x 5' x 12'	600.00
4 Injectors	750.00
Tools and coal burrows, shovels bars &c.	400.00
Coal Elevator	500.00
2 Fan Blowers	520.00
Engines for blowers, elevator & shops	780.00
Shafting and belting	550.00
Shop equipment, tools	1,000.00
Overhead crane & railway	<u>2,000.00</u>

\$9,500.00

Electrical Appliances.

12 Feed Regulators	\$1,200.00
Feeders electrical pressure regu- lators	2,500.00
Safety catches, cables & clamps	1,200.00
12 Circuit breakers	1,500.00
Copper mains in Station	700.00
Galvanometers & miscellaneous electrical apparatus	<u>500.00</u>

\$7,400.00

Erection of Plant.

Cost

5,000.00

Total cost of Central Station Plant

\$204,695.00

5.

Cost
~ of ~
Meters and Underground conductors.

Meters:

Cost

\$12,000.00

Underground conductors:

(See remarks, page 144)

Cost, including laying

130,000.00

\$142,000.00

Summary of Cost.

Central Station Plant \$204,695.00

Underground system of meters 142,000.00

Grand Total

\$346,695.00

Operating Expenses

365 days in the year.

Operating Staff:

Superintendent	3,000.00
Inspector	1,500.00
Asst. (good machinist)	1,050.00
Accountant	900.00
Asst.	500.00
Three Motor men	2,700.00
Motor carrier	1,000.00
Lamp boy	450.00
Boy	300.00

Chief Engineer	1,800.00
Three Engineers	3,300.00
Four Helpers	3,600.00
Head Fireman	1,000.00
Four Fireman	2,800.00
Three Laborers	2,200.00
Three Regulator men	2,400.00
Machinist	1,050.00
Brush man	900.00

\$30,250.00

Coal:

3 1/2 lbs of good anthracite coal is equivalent to 4 1/2 lbs. of black composed of 6 parts anthracite to 1 part bituminous.

The basis of this estimate is 4 1/2 lbs of black per horse-power per hour and 7 1/2 lamps of 16 candle power each per horse-power. 14,500 lamps will require 19,336 lbs. for an average of 3 hours per day for 365 days in the year and will require a total consumption of 4252 long tons @ \$3.27

\$12,756.00

Oil.

1,150.00

Waste:

130.00

Lamps:-

14,500 lamps for 3 hours per day 365 days with a life of 800 hours will require annually the renewal of 19,847 lamps @ \$3.94

696.00
\$ 20,912.00

The actual number of lamps installed, for a maximum number of 14,500 in operation, will be about twice this number in business districts and three times for residences. For the first installation the capital would be required, but would be replaced from the earnings and the lamp account would come entirely under the head of operating expenses.

8

Depreciation.

Steam Dynamo:

3 per cent. on \$6,000 ⁰⁰ (Dynamos)	\$2,580.00
7 per cent. on \$24,000 ⁰⁰ (Engines)	1,680.00
	<hr/>
	\$4,260.00

Boilers:

7 per cent. on total \$40,800.00	\$2,856.00
	<hr/>
	\$2,856.00

Iron Structure & Floors:

2 per cent. on total \$8,645.00	\$173.00
	<hr/>
	\$173.00

Piping:

7 per cent. on total \$8,050.00	\$564.00
	<hr/>
	\$564.00

Auxiliary Plant:

2 per cent. on \$2,000.00 (crane)	\$40.00	
7 per cent. on remainder \$7500.00	\$525.00	
		<hr/>
		\$565.00

Electrical Appliances:-

3 per cent. on total \$7400.00	\$222.00	
		<hr/>
		\$222.00

Underground Conductors & Meters:

3 per cent. on total \$42,000.00	\$1,260.00	
		<hr/>
		\$1,260.00

Total depreciation on complete plant:	\$13,200.00
---------------------------------------	-------------

Total Operating Expenses.

Operating Expenses:

Salaries	\$ 30,450.00
Coal, oil, waste, lamps	20,982.00
Depreciation	13,200.00
	<hr/>
Total expense	\$64,632.00

Cost of Electric Light:

Percentage amount of gas produced per ton of coal	}	10,000 cu. ft.
Amount delivered to consumer		
12 per cent. leakage	}	8,800 cu. ft.

One thousand cubic feet of gas will give 2000 candles of light per hour. The total number of candles of light for one hour produced by the foregoing electric light plant will be $144500 \times 3 \times 365 \times 16 = 254,040,000$, which is the same amount as will be produced by 127020 lbs of gas.

11.

The cost of electric light for the equivalent
of one Mc of gas will therefore be \$64,632.⁷
÷ 127,020 =

Cost per Mc. 50 $\frac{1}{2}$ %

Receipts.

If sold at \$1.⁰⁰ per Mc. the
profit will be 129 $\frac{1}{10}$ %

Total on 127,020 Mcs \$62,366.82

Capital \$500,000.00

Dividend (\$1.⁰⁰ per Mc.) 12.17 per cent.

If sold at \$1.²⁵ per Mc. the
profit will be 99 $\frac{1}{10}$ %.

Total on 127,020 Mcs \$125,876.82

Capital \$500,000.00

Dividend (\$1.²⁵ per Mc.) 25.17 per cent.

If sold at \$2.00 per No. the
profit will be \$1.49 per No.

Total on 127,080 Nos.	\$189,386.82
Capital	\$500,000.00
Dividend (\$2.00 per No.)	37.47 percent
Capital assumed	\$500,000.00
Actual cost of Plant	\$346,695.00
	<hr/>
Balance	\$153,305.00

(which may be applied to purchase of
real estate and furnish necessary operating
capital, and provide for all contingencies.)

Note.

It should be observed that the cost of
fuel is a small factor of the total oper-
ating expense, they being \$12,756⁷ and
\$64,632⁷ respectively or less than 1 per-

Considerable variation in the price of fuel would not affect the general result to a great extent.

For example, suppose it is necessary to use good coal at \$7.⁰⁰ per ton, the total cost of a year's consumption would be \$23,150.⁰⁰ and -

Total operating expense	\$75,026. ⁰⁰
Cost per lb.	
$\$75,026.00 \div 127,020$	59¢

If sold at \$1.⁰⁰ per lb the profit will be 41¢.

Total on 127,020 lbs	\$52,076. ⁰⁰
----------------------	-------------------------

Capital	\$500,000. ⁰⁰
Dividend (\$1. ⁰⁰ per lb)	10.41 per cent

This is with coal at \$7.⁰⁰ per ton and at 3.⁰⁰ per ton the dividend is increased only 1.06%, thus showing that the price of coal is a small factor.

The total operating expenses have been given as \$64,632? Let it be assumed that high water rates, wages, insurance, taxes, and high prices for all supplies swell this amount 33%, making a total of \$85,960.??

Cost per Mb would be $67\frac{1}{2}\%$

If sold at \$1.50 per Mb, the profit will be $82\frac{1}{2}\%$

Total on 127,080 Mbs. \$1,045,537.46

Capital \$500,000.00

Dividend (\$1.50 per Mb.) 20.9 per cent.

Remarks.

Real Estate:

The plant will require a lot 50 ft. x 100 ft. If circumstances favor it, with a lot 100 ft. x 100 ft. the boilers and engines may be placed together in the ground level and the cost embraced under the title of Iron Structures for Supporting Boilers will be eliminated together with depreciation on the same.

Underground Conductors:

The cost of underground conductors is based upon the assumption that the district does not exceed one-half mile square; that the lamps are nearly uniformly distributed and the Station located near the centre of consumption.

Estimate
 ~ ~ ~
Weight of Complete Plant.
 (exclusive of all brick work.)

Central Station:

12 Steam Dynamos complete	744,000 lbs
8 Boilers	440,000
4 Smoke Stacks (5' diam. x 70' high)	30,000
Iron Work for Stack foundations	20,000
Main Steam Pipe and valves	26,000
Exhaust Pipe and valves	33,000
2 Feed Water Heaters	14,000
Iron Structures for supporting boilers	125,000
Overhead Crane	45,000
Auxiliary Steam & Water Pipe	8,000
Miscellaneous	
(Including that part of the plant given us estimate of cost and not mentioned above)	
	<u>33,000</u>
	1,518,000

Underground Conductors:

Weight including connecting boxes,
 insulating compound, and joints and
 fixtures of all kinds

	<u>626,000</u>
Total	2,144,000 lbs
or	957 tons

Note.

16.

Shipments.

The dynamos, boilers, electrical appliances and Underground conductors, weighing in all about 822 tons would have to be shipped from New York. The remainder of the plant, 135 tons, might be shipped from different distances or, in part, might be made or purchased in the City where the Central Station is located, according to circumstances.

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9

New York, Aug. 5 1882

Atlanta

W. A. Edison, Esq.

Marble Park

My dear Edison

I am

reconciled to your ~~view~~ of neglecting the first cost of lamps and entering the lamps replaced under the same heading as that of ~~costs~~ ^{repairs}.

In the estimate completed I have done as above, but still believe that lamps should go to capital accounts as a part of the plant, and that it should not ~~be~~ ^{be} ~~the~~ ^{the} ~~case~~ ^{case} ~~to~~ ^{to} ~~include~~ ^{include} ~~the~~ ^{the} ~~cost~~ ^{cost} ~~of~~ ^{of} ~~the~~ ^{the} ~~lamps~~ ^{lamps} ~~but~~ ^{but} ~~say~~ ^{say} ~~40000~~ ⁴⁰⁰⁰⁰ ~~as~~ ^{as} ~~capital~~ ^{capital} ~~that~~ ^{that} ~~number~~ ^{number} ~~would~~ ^{would} ~~be~~ ^{be}

New York, _____ 1882

installed and ~~not~~ ^{not} ~~all~~ ^{all} ~~of~~ ^{of} ~~the~~ ^{the} ~~more~~ ^{more} (That is, for a district with 14500 lamps maximum there would be at least 40000 installed for which capital would be required). Then count the failures under depreciation. Let me hear from you immediately please.

W. A. Edison
W. A. Edison

New York, Aug. 5 1882.

9
Clark
J. W. Edison, Esq.
Woollo Park, N. Y.
My dear Edison,
Requardt &
reference to the
catalogues in sending
sockets, sockets, chandeliers
bodies, switches &c.

They wish to know if
they shall be omitted or
not. Johnson has said
personally to me that he
believed in total abolition
of safety catalogues excepting
in its own proper place and as
entirely separate from any
other device. Would it not
be well for you to write

THE EDISON ELECTRIC LIGHT CO.,
45 FIFTH AVENUE.

New York, _____ 1882

me your opinion and I
can also get Johnson
and submit the whole
to Wagon Eaton and have
whatever change is decided
best definitely adopted.

Requardt wants it
decided as it will make
a material difference in
the construction and
appearance of the fixtures,
and especially reduce the
size of parts where the
safety catalogues come in

Yrs truly,
Chas. L. Clark

THE EDISON ELECTRIC LIGHT CO.,
85 FIFTH AVENUE.

9
New York, Aug 7 1892

W. D. Edson, Esq.
Meadow Brook, N.Y.

My dear Edison,

All right in
reference to the lamps coming
under printing expenses, &c

It was so put in the
estimate in the first
place and need not
be changed.

Yours truly
Chas. F. Johnson

Dear Mr. [unclear]
Dear Mr. [unclear]
Dear Mr. [unclear]

My dear Sir,
The meters are
operating rapidly and so
the sheets when
B & Co send the L. S. strips
for which I have asked
several times.

I write today about the
solution which we shall
adopt and when decided
the compensating resist.
can be adjuated.

The solution which we
have been using was that
which gave the least
resistance at 60° F.

(2)

and a further change is prepared
to overcome the evil from gas.

Resistance	Temp.	Vol.	Watts	Resistance	Temp.	Vol.	Watts
10	100	123.37	15.7	8000	100	123.37	15.7
100	100	123.37	15.7	8000	100	123.37	15.7
1000	100	123.37	15.7	8000	100	123.37	15.7
10000	100	123.37	15.7	8000	100	123.37	15.7

(3)

The relative amounts of acid liberated due to the difference between the amount of zinc taken from one plate and the amount deposited on the other was found by experiment to be

Sp. grav.	Relative amt. acid liberated
1.009	5
1.018	17
1.0375	26 ^x
1.075	38 ^x
1.15	55
1.30	84 ^x

The old solution is nearly like the best, with a s.g. of 1.29 and the proposed solution is between 1.0375 & 1.075

(4)

so that the relative amt. of acid liberated will be nearly as 30 to 84, about 1 to 3.

What do you say to the change?

I have in person sized the glass men to hurry up the 25-light meter bottles (bottle A) and have them now at work in the 50-light bottle (B). Bergmann is going ahead in the 50-light meters.

In haste
Chas. H. DeWitt

New York, Aug. 8 1882.

Blank

J. H. Edison, Esq.

Windsor Park, N. J.

My dear Edison,

I send you by
express two pairs of metal
plates. Bergmann & Co. wish
to make them by punching
from the sheet instead of
sawing and milling,
which of course costs more.

Before approving of this
class of work I want to hear
from you. Can the sides
with the rounded edges be
utilized or only the flat side?
Shall we sanction this
method of manufacture or insist
upon the old method?

Old method no punching

New York, _____ 1882

My dear Edison

Again, if this is allowed
I might like to change as
much as 35¢ per pair?

It is important to
get an early reply.

Yours truly,

Chas. L. Blodgett

9
THE EDISON ELECTRIC LIGHT CO.,
15 N. FIFTH AVENUE.

New York, Aug. 19, 1882

Frank

My dear Edison,

Just recd
your note about cheap
meter and will have
it put under way
immediately after the
calculations are completed.

Will think over the
thermo-stat.

Yours truly,

Chas. F. Bradley

9

New York, Aug 17 1882

Charles

H. A. Edison, Esq.
Woods Park, N. J.
My dear Edison,

Have your
verbal consent to change
the solution to 1 to 10.
Will you please give it
in writing to avoid any
trouble, and so that I may
have evidence that the
change was approved by you.

I read your letter
not approving of punching
out the meter plates.

I gave some to Brown &
bet and the greatest
difference he could make
was less than 2 min.

THE EDISON ELECTRIC LIGHT CO.,
45 FIFTH AVENUE.

New York, _____ 188

deflection in a total of
about 300 min.

That is, the difference in
resistance between two
plates with convex sides
or flat sides together was
less than two-thirds of one
per cent. and when the
compensating resistance
is considered it would
hardly amount to the
one-hundredth of one per cent.
Will it be worth
while to increase the
expense of
manufacture of
for this small possible error?

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

9

New York, Aug. 14, 1887.

Blank
H. A. Edison; Esq. Roselle plant
Menlo Park, N. J.

My dear Edison,
What capacity
do you want Roselle meters
for six lamps of 750 ohms
each?

In purpose to use
3-10 candle lamps in series
do you not?

H. A. Edison

Chas. L. Clark

from 1 to 8 groups,
1 meter ought to do the whole job
I am trying tubes filled with
Lamp oil

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

New York, _____ 1887.

P. S.

Do you not think
it best to use the 25
light bottle for this
meter? The prices
will be smaller but
it would not pay to
change the bottles

C. L. Clark

Better use the 25 light
bottle -

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

9

New York Aug. 15 1882

Alfred S. ...

Blank

A. A. Edison's Secy.

Windsor Park, N. D.

My dear Edison.

Mr. Cashie

has accepted and says he will assume duties Sept. 1st.

What do you say in reference to a plant of 1400 lamps in a town with such a distribution that no more lights can be obtained except at too great a cost of conductors? Do you say in any case to use a mixed plant of one G (1200) and 3 Ks (750)?

Yours truly
Chas. L. Blodgett

THE EDISON ELECTRIC LIGHT CO.,
65 FIFTH AVENUE.

47

New York Aug. 16 1882

Blank

Samuel Insull, Esq.

Windsor Park, N. D.

My dear Sam.

I am sorry to impertune you in reference to these books of mine on steam, but I read them at times very much. They are all huddled at Edison's house.

You have a list, or at least Mr. Mott has.

Will you do me a favor by having them looked up?

Very truly
Chas. L. Blodgett

New York, Aug. 16 1882

Answered
W. H. C. C. C. C.
Wm. H. C. C. C.
New York, N. Y.
New York, N. Y.
My dear Edison,

Will you
please look over the
estimate for the 8
dynamo plant and
return to me?

I send the former
estimate for 12 dynamo
plant so that you may
have a parallel case
(which you have approved)
with which to compare.

I think it fair in the
operating expenses to scale
down the wages by
supposing a city where

New York, _____ 188

W. H. C. C. C.
cost of living and wages
are less than in New York.

W. H. C. C. C.
Wm. H. C. C. C.

New York, Aug 22 1882,

*Answered
24/82*
Edison Co.
Meado Park
N. Y.

My dear Edison,

I have given instructions about the necessary and complete drawings for Prof. Colombo. If his plant is to be gotten ready in Dec. Bergmann & Co. should immediately start on his regulating apparatus, which should include, large circuit breakers, field regulating resistances, ~~switch~~ board &c, I think the best way will be for you

New York, _____ 1882

or the party having authority to give Bergmann and order for regulating appliances &c for ? Edynamometer the articles and their number to be specified, approved and passed after construction by me. In this way nothing will be left out and enough will be sent.

In this connection, I wish to know if you will consider the upright inductor or dynamo as a part of the plant? It is certainly the most convenient method of applying

THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE.

New York, _____ 188

a safety catch and they
give satisfaction at
Central Sta.

That trial board
is another important
matter, in which Mr. Patton
is to work.

Very truly,
Chas. F. Allen

New York, Aug. 23 1882

T. A. Edison, Esq.,
Windsor Park, N. J.

My dear Edison:

I change is proposed in the meter which I wish you to consider and let me know if you approve as early as possible.

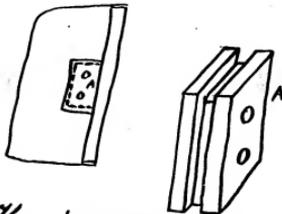
The meters as now constructed have one hole in each side and to meet the requirements of the fire underwriters a wooden plug is driven into this hole, and through the plug are two small holes for the wires. It had been

New York, _____ 188

2

proposed to change this and have two holes, and two wooden plugs, one for each wire.

Instead of any of these plans I have one to submit from Bergmann's foreman.



The side of the meter is cut out as shown and a block of maple with a slot

cut in three sides, equal in thickness to the iron sides of the meter is fast in at this place and held by the wooden meter back.

Two holes are bored through this block for the wires.

Do you approve this construction?

Again shall A & S have matter to go on and finish these two 13x13 for South America? They were ordered long before the large ones for Central Sta. use and if the fact that they are not being finished is known by the agents of the Co. they

4468
Yes they must have
been made
long ago

the wires

will protest most emphatically, and they cannot be long delayed without finding out the true reasons.

S. truly,
Chas. L. Clarke

New York, Aug. 25 1882

T. A. Edison, Esq.

Windsor Park, Va.

My dear Edison,

Will you
please give to Mr. Claudius
the loss per cent. in
feeders and also in mains
, likewise resistance and
candle-power of lamps,
(10 c.p. = 250 ohms.)
(16 c.p. = 140 ")
for Milan central station?
I do not know just what
you deem best under
existing circumstances.

In my judgment,
it will be best for

THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE.

New York, _____ 1882

you to inspect the
map and decide, from
the number and location
of the lamps, the
number of feeders
and also their approx.
location (the number
of lamps not to exceed
and average of more
than 800 per feeder,
although the one going
to the theatre may
easily carry the full
number required there,
because it will be of
considerable size on
account of the distance)
After the number of
feeders is ascertained

THE EDISON ELECTRIC LIGHT CO.,
6 FIFTH AVENUE.

New York, _____ 188

decided upon, the
size of man's can readily
be determined.

They are now waiting
only for this data and
can then go ahead.

Yours truly,
Chas. F. Smith

New York, Aug. 27 1882

T. A. Edison, Esq.,

Woollo Park, N. J.

My dear Colonel,

Have you completed experiments on the thermo-static regulator for Rosell so that I can get up the general design? If so the best way to give an idea as to best manner of arranging the same will be to send me the sample.

George Green finds that the advantage of boiling the solution with zinc carbonate is hardly perceptible as regards polarization.

New York, _____ 1882

(2)

I read your note in reference to the meters and the wooden sides through which the wires are to pass. A still better method in my opinion has been struck and it is this:

Two holes are bored in each side of the meter, one for each conductor. This hole is tapped and one of the wooden plugs, such as is used for safety catches, is screwed in up to the shoulder. The conductor passes through a hole in the center.

It makes a firm job. Do you approve of this method? You can see

(3)

It at Bergmann. Until
I can hear from your meters
will be finished in this
manner.

In reference to your
suggestions of the 25th,
the matter of speaking
lates, call bells et cetera
had best be left to the Dept.
Mr. Casho, who is now on
the ground and is taking
the details in hand,
Since he is to operate he should
within reasonable limits
fix his means and methods.
We'll have the extra blower
in hand immediately.

(4)

Recd 140 meter bottles and
gave Pat & Co 50 for Europe.
Ordered in them yesterday
to hurry along more.
Got very good results
yesterday with new
cylinders and shall
make more experiments
today. Wrote Peter a long
letter about it, also
asking him to see Walter
for himself as soon as
possible, and asking
him to hurry up new
cylinders of other engines.
When he sent first one
he said others were almost
ready and he is probably

(5)

awaiting results.

The ends of feeders are taped now, and I think Kuezi's Japan paint will be best to cover them with. The dynamo circuit breaker will close the field before it closes the main circuit.

At present the quickest way to disconnect feeders is to loosen and pull out safety catches.

Should it be modified so as to pull out plugs?

The figures for new feeder regulator will soon be complete so that

(6)

B & Co can make sampler.

Ch. Goodland has arrangements by which we order coal as wanted and of any kind (using pen now) same parties will furnish slack.

Why should we use solder safety catches instead of lead for the streets?

It had been decided to use lead on acct of cheapness and fact that could not get the solder of regular alloy and only at uncertain times and that the expense would be greatly increased besides the delays (so represented true by Mr. Kuezi). It was

(7)

decided to use lead and
all our experiments at
Louch St. to determine
proper size were made
with lead.

Will see C. L. Goddard about
temporary office for meter
acct.

Also see Kruesi about
street boxes as you suggest.
He has now ordered rubber
gaskets for all the boxes
as he finds they work better
than anything else, in fact,
so far perfect.

Am of the opinion
that the proper way to indicate
the pressure at the end of

(8)

the feeder is to attach the
indicator wires to that
point. We have twenty
feeders and because two
or three have failed with
respect to the indicator
wires and because we
failed after being repaired
I think is no reason why
the dept. in charge of
tubes should demur
against the system simply
on account of the trouble
to them in making a repair.
The bad places might be put
right even if the pavement
is in concrete. I really
cannot see how the differ-

thinking to use that article
 in the new experiments at
 present it is necessary
 proper steps were made
 with care.
 With the best success a
 permanent office for
 work.
 The new house which
 will be a great help
 He has some other
 as well as for the
 it is found that
 the building was
 so far perfect.
 The plan of the
 that the paper
 the house in the

The office of the
 which is
 (The house)
 and the
 in the
 subject to the
 when and because
 force of the
 which is the
 the office in
 the
 the
 against the
 in the
 to them in
 The
 right
 in the
 Government

(9)

initial coils are going to
remedy the difficulty,
If this method will work,
it will also work with
an automatic regulator.

Your regulator at Menlo
will not regulate the
lamps at your house because
the wires are not attached
there and because of the
great variation in the loss
apart the inductor. If the
initial magnet can be wound
differentially so as to regulate
at your house by attaching
only to a short portion of
the line near the regulator
the practicality of the system

(10)

will be demonstrated, but
to devise a perfect system
without experimentally leading
up to it involves the difficulties
encountered in perfecting the
automatic regulator.

For the present I say,
have the two or three bugs
taken out and the line
made good.

J. Westinghouse
Chas. F. Schenck

THE EDISON ELECTRIC LIGHT CO.
& FIRE ALARMS

New York, Nov. 21 1882

*Recd
22 Nov 21*

J. A. Edison, Esq.

65 Fifth Avenue Bldg.

Dear Sir,

The method by
which the substitution of A & S
engines at Central Sta. is to be
made has been determined and
I am ready for the engine
and pole plate which are
now at Goerck St.

When can they be had?

*Yours
Wm. H. ...*
Chas. H. ...

THE EDISON ELECTRIC ILLUMINATING CO. OF N. Y.
ENGINEERING DEPARTMENT.

Mutual Gas Light Co
NY - 1880 [Manufactured]
721,000,000 Cubic feet
gas - have 120 miles
pipe - Leakage was
8 percent of above bal
sold - by leakage it is
next unaccounted for gas
they used 2 million cubic feet
in their works - average
Candle power NY Co.
20 Candle gas - (Kennedy)
2240 lbs coal ought produce
1500 lbs Coke or 38 bushels
12 quarts tar 30 gal Ammoniac liq
per ton - present price Coke NY
\$3 per Chaldron @ 36 bushels 50 lbs
Chg for delivery 50 per bushel - 20c
per ton Cold Carbon for tar - 20c
20c per ton Cold Carbon

They have to have different
gas holders so can send gas
at different pressures. The
most defects of high & low
part city - have 15,000 Gas

Mutual Co has 17 gross bushels
in every 100 feet gas NY & Mutual
4.46 - Meloplaton, 23.89 Harlem
51.50

Ammonia - NY gas liq - 4 grains
per 100 cubic feet. Manhattan
5.12 - Mutual = 87
Meloplaton 2.91 Harlem
2.04. -

Mutual Co - largest man 24
inches - smallest man 4
inches - but this is laid to
cell here after lay rocky base
than 6 inch man

3 Kennedy under oath in
 Phila Gas tract investigation
 stated following
 " A well conducted Coal gas
 Co. should be able at present
 price to put their gas in the
 holder for 65 cents. This
 does not include cost
 distribution, simply
 Mfg Cost. That is average
 list well mined coal
 gas works this includes
 repairs in works (16) candle
 gas - Metal gas costs
 less than 50¢ - 35¢ @ 40 is
 all cheap gas when they
 make a change

Labor per ton ~~at 1000 feet~~
 1000 feet .15-8 cents
 Coal 44.9 - per M above is at

Phila

deduct -

Renewals network per M.	2.2
deposition also the	.6
Water	.3
gas at work	.3
Supplies	.7
Repairs	1.5-
Contingency, Expense Improvement	6.2

total gross Cost . 73.7 Cents

deduct Sold Tax Cost, 11.7

leaves 62 C cost M in

Phila

Thinks that if all L's have
 unaccounted for gas less
 than 12 pc are lucky

Three air 441³ found in a
mile of gas down

Kennedy thinks that
gas ought to be delivered
for 25-@45-C per M.

6000 M per man per year
for distribution

Phila Consum 2,180,000 M³

Should take 965⁺ men all
depts 365⁺ of which are
in the distribution dept

4.50 feet gas per lb Coal
at 62 gal -

Wages paid Phila⁶ =
Stokers + helpers \$ 2.20
filters - 2.05. Stokers. 1.60
purfers 1.60. Winkers 1.80
Mules \$ 1. Coal gang each
1.45. - Labors 1.34.
flue cleaners \$ 2.1 foreman over
Stokers + helpers 2.20
Supt each work \$ 4. Clark
3. Washmen 1.60 messengers
1.60. Exhaust Engineer 2.05 -
Engine room 1.80
Leaders Phila 21 per
ct of total made -
Mitsui Co My employ
150 men daily in work

The Edison Electric Light Company,

65 Fifth Avenue,

Norris Green, Pres.
S. H. Eaton, Vice-Pres.
E. P. Fahler, Treas.
C. Goodland, Sec'y.

New York, 188

General Rooms Costing
present Manhattan Gas Co. N.Y.
present leakages Manhattan 12.7 pc

Variation 5- deg temp -
increase value gas 1 per ct
Made in 1880. ~~188~~

1,168,000,000

they have 174 miles of pipe

Supply 6,781. Street Lamps

they burn 4000 hours,

3 1/2 Cft. consumed each or 14 M

per annum. City pays \$115.

for the gas, lighting, cleaning & keeping
lamps in order,

Says it pays no profit we make a
loss, it pays us 75c per M.

They have made as high as 5 Million

Ct in a day they make 4.8 Ct

per lb of Coal. (good) see p 1316 - gas had
insects etc.

The Edison Electric Light Company,

65 Fifth Avenue,

Norris Green, Pres.
S. H. Eaton, Vice-Pres.
E. P. Fahler, Treas.
C. Goodland, Sec'y.

New York, 188

"Creson"

Says average life of
pipe 20@25 yrs

Value Philadelphia 11,000,000

Menzinger testified.

Chicago works (one only)
make about 4 Billion year
leakage 25 pc

7000 feet gas per man in
good

City Gas Co Philadelphia
under production 135 million
hours in work about 60 men
leakage about 11 pc

The Edison Electric Light Company,

65 Fifth Avenue,

Herib Green, Pres.
S. B. Eaton, Vice-Pres.
E. P. Fahsel, Treas.
C. Gaskell, Secy.

9

New York, _____ 188

Laying extra man not
counted in distribution
for distribution abt 16 men
the include index clerks &
general service gang

700 miles man in Phila

Henry B Parham was in 1878
Supt of department Mutual Co
of NY but resigned head Eng
flight with Kennedy & his son
says Kennedy payed him man
ticket, feels it deeply even now -
got his address through
Goodman meter Co - Wright
a good man for us -
Kennedy says: he was charged for
incompleteness

The Edison Electric Light Company,

65 Fifth Avenue,

Herib Green, Pres.
S. B. Eaton, Vice-Pres.
E. P. Fahsel, Treas.
C. Gaskell, Secy.

(D New York, _____ 188

here address
Luce 1937 North 13th St

Boston Gas Co 112 miles man
deliver 631 000 000, \$225, 000
Unaccounted for gas 8 1/2 pc
Cap 2,500 000 Bonds 500 000

Mutual of NY pay \$50 000
taxes
delivered 509,000 000 1881.
(actual)

fund following table given
by Kennedy in Boston investm^t

Cost coal per M.	75-
Labor	55-
Distribution	20
Leakage	15-
Taxes 1	18-
Cancel coal for working	20
	<u>173-</u>
	25
Less residuals	150

The Edison Electric Light Company,

65 Fifth Avenue,

Norris Green, Pres.
E. D. Dixon, Vice-Pres.
E. P. Fabbri, Treas.
C. Goddard, Sec'y.

New York, 188

(11)

1 man for every 105 City Lamps
to light em -

Daily labor report Harlem Gas Co NY -

Dec 31 1880 - ~~gas~~

Foremen 2 Sloters 40. Helpers 20 Conkers 8
weighers 7 Enginemen 2 Boilermen 2
Carpenters 1 Machinist 2 Blacksmiths 1 Helpsto stills 2
Valvemen 1 Strip men 2 Laborers 9 watchmen 2
Cartmen 4 Strollers 1. Messrs 1 pipemen 3
Coke men 2 Purifying men 7

Clerks in office, 7 - Clerks for meters 10,

Collector 4. President, Vicepres, Secy, Engin

Manufactured 30,000,000

18.57 1 1/2 mile from W. W. W. average yield

4.70 cf per lb coal. 4.700 City lamps

45 lighters. 120 miles man hrs

Above found more complete

in page 1901 & 1902 gas

trust investigation.

35

Case by Mr. E. P. ...

Smallest general distribution plant

200 groups of 600-10 candle lamps

Investment		Running Expenses	
Domino No. 100	\$5000.00	Coal	350.00
Engines	1500.00	Oil	200.00
Boiler setting & steam	14000.00	Engines	9000.00
Living building	3000.00	Artificial Man. Patent	600.00
Regulator	2500.00	Lamps	5400.00
Meters & appurtenances	175.00	Oil	250.00
3 Miles poles etc	6000.00	Repair	100.00
Wire	4500.00	Depreciation	600.00
Blowers	500.00		
Piping & setting	300.00		
Stationary dynamo	2000.00		
Injectors & steam pump	250.00		

11975.00

3315.00

600 Lamps 10 candles each 900 hours in
 5,400,000 candles - 2000 candles per hr.
 is 2700 lbs. at \$2.00 per lb. \$5400.00

Investment	\$11975.00
Receipts	5400.00
Expenses	3315.00
Net profit	2085.00

Smallest general distribution plant.

200 groups or 600 10-candle lamps.

Dynamoes 7 1/2 candle	3000
Engines	2000 1500
Boiler setting & slop fixing bldg. or room.	1400
Regulator	300
Meters, tappers	250
3 miles poles etc.	600
Wire,	4500
Blower fan drive etc.	300
Piping & connecting	300
Station & fund.	200 200
Steel Inj. & steam	250

11,975

Coal	350
Rent - office	200
Engineer	900
Station Outside man meters, etc.,	800
Lamps	540
Oil	25
Depos. Repairs	00
Depen.	600

3575
200
3375

600 lamps 10.c each 900 hour
= 5,400 hrs., candles 2000 candle
per M is 2700 M's at 1/2.
5,400.

Invested
Receipts
Expenses.

is ~~shown~~

11,975
5400
3375
net. 2085

General distribution plant in Orma Town
 2000 to 4000 inhabitants by pole line $\frac{1}{2}$ to 2
 miles area - 3000, 8 candle lamps, average
 burning 3 hours daily - year of 300 days

Investment	Running Expenses	
Dynamo, Belts &	Coal dust @ 5¢	
Extra Armature	5 th per S. N. P.	1850 00
Engine & Motor	Plant building	350 00
Boiler, stack, & piping	Engineer	1000 00
Fixing building	Assistant	400 00
Regulating Appar.	General outside	
Meters	Man & Material	900 00
Extra Meta Appl.	Lamps 600 hrs	
Wire	820000 lbs. - 60¢ each	2150 00
Poles	100000 lbs	50 00
Steam pumps in use	650 00 Repairs	250 00
Piping & Boring	1000 00 Depreciation	1500 00
Stationary Furniture	350 00	
	28150 00	7950 00

The above figures are for 3000 lamps of 8 candle
 power each, arranged in series of 3, each lamp
 being equal to a 4 foot gas burner. The total
 consumption would therefore be equal to 12,000
 feet of gas per hour, which at \$2.00 per 1000 feet
 would be a yearly total of \$21,600.00
 Less running expenses 7950.00
 Net yearly receipts & profit 13,650.00
 or 60 per cent. on actual investment

Refrigerator (with extra armature)	7200.
Engine & boiler	3800.
Boiler stack & setting	3500
Refrigerating machinery	1000
Regulating apparatus	500
Motors	750
Extra valves & fittings	200
Cable	8200
Flue water heater	1000
Steam pump & set	650
Piping & erecting	1000
Slating & formwork	250
	25500
	26000
	26500
	27150

Coal = 1000 at \$3.50 lb for 9 M per year -	1350.
Rent Building.	350.
Engineer	1000.
Overhaul for firing etc.	400
Journal outside man	} 900
Keeps books meters etc	
Lamps: 6000 hour life 60° each.	2150
Oil	50
Repairs.	250
Depreciation.	1500.
	<hr/>
	7,950

2000 Candles Equal 1 M of gas.
 2400 Lamps burning 3 hours per day 300 Days.
 900 hours. is 21,600,000 candles for an
 hour or 10800. M of 2000 Candles each
 at \$2 per M. is \$21600.

Amount mounted \$27,150

Receipts. 21,600.
 Less running expenses 7,950
 net. \$13,650

1881

of 50 pct on actual investment
 or at 10 pct on 135,750.

MEMO PARK, N. Y.
 THOMAS A. EDISON

ESTIMATE on

General Distribution Plant in small Town,

having 2000 to 4000 inhabitants, by Pole line, $\frac{1}{2}$ mile area, 3000

Open end lamps - average burning 3 hours daily - year of 300 days.

INVESTMENT.		RUNNING EXPENSES.	
Dynamics.....	\$ 5725.00	Coal.....	\$ 900.00
Engines.....	3000.00	Building rent...	500.00
Boiler, Stack &c.	3500.00	Engineer.....	900.00
Fixing building &c.....	1000.00	Outside man & bookkeeper.....	300.00
Regulating appa- ratus.....	500.00	Fireman.....	500.00
Motors.....	1125.00	Insps.....	1000.00
Miles Poles, In- sulators, Cross- arms, Erecting..	1000.00	Oil.....	200.00
Wire.....	7500.00	Repairs.....	250.00
Food-water Heat- ing.....	100.00	Depreciation....	1500.00
	\$24450.00		\$7330.00

The above figures are for 3000 lamps of 8 candle power each, arranged in series of 3, each lamp being equal to 4 foot gas burner. The total consumption would therefore be equal to 12,000 feet of gas per hour, which at \$2 per 1000 feet would be a yearly total of..... \$24,000. 00

Less running expenses..... 7,330. 00

Net Profits..... \$14,270. 00

Amount invested..... 450.

Net yearly receipts..... \$14,270.

add \$1350 to Dynamics
take off \$300 from water
add \$50 to wire.
" Blown \$50
add Electrician 1000 after \$2000.
if you give them more

If 10 candle light are used instead
of 8. it will give 8000 groups
that means number candle have
not been same

Lillooet B.C. Co. 457

I give below very rough estimate of cost
of central station for your personal use.

Central Station of one square mile 33000
ten sandau jula

Investment

Dynamoes @ 7500 - 200 hp. final 15 250	90,000
Boilers (1/2 per hp.) say	28,000
Stacks	10,000
Piping foundations briles, blowers	
Extra engine coal	8,000
Iron structure extra	8,000
Foundations	3,000
Fire proof floor	3,000
Station regulation apparatus	3,000
Meters	10,000
Exciting appliances, forcing station.	10,000
Machine fixtures	200,000
Total Invest. plant	<u>373,000</u>

Running expenses one year

Labor	12,000
Bad debt	1,000
Coal	16,000
Oil waste	2,500
Rent	12,000
Executive	6,000
Lamps	19,800
Depreciation	8,000

Meter Men	4,000
Taxes	3,000
Water	<u>2,000</u>
Total Expense	<u>\$ 86,300</u>

33,000 lamps 3 hours daily, 300
 days, 5 ft per hour is 148,500,000 ft
 at 85¢ per M = Gross Receipts \$126,220

Expense	<u>86,300</u>
Net Profit	\$ 39,920

or over 10 per cent on investment

Sold at \$1= per M. would equal \$148,500

giving profit of 62,200

or over 16 per cent

This will give you a rough
 idea of cost and profit but it is impossible
 to estimate exactly when my knowledge of
 conditions on the other side are so slight.

33000
33000

10 Candle jet 54
Station 8 square mil

Dynamo	12 at 7,500.	90,000.
Boilers	(4 12 hp boiler)	28,000.
Stacks		10,000.
Piping foundations boilers blowers etc. Engine Coals Shuttle ash lifter etc,		8,000.
Iron structure, erected.		8,000.
foundations		3,000.
Fire proof floors,		3,000.
Station Regulator apparatus:		2,000.
Mills.		1,000.
Erecting appliances for my station		10,000.
Prime of feeders.		200,000.
		<u>375,000</u>
E		
Labor	12,000	
bed debt.	1,000	
Coal	16,000	
oil waste,	2,500.	
Rent.	12,000.	
Executive,	6,000.	
Lump	19,500.	
		<u>99,000</u>

Depreciation	Camd) 300
	8,000.
Mills man	4,000.
Taxes.	3,000.
	<u>84,300</u>
Water	2,000.
	<u>86,300.</u>

33000 lamps 3 hours daily 300 days
5 feet per hour is 148 850 Mo. at 85c

\$127,222

127,222
86,300
40,922 profit over 10pc
on the investment - at
1 dollar: 148,850
86,300
62,550

over 15pc cost

54675

Lamps at $2\frac{1}{2}^c$	forwarded	76.00
	labor hour 4500	85.00
		<u>121.50</u>
		58.560
Depreciation		<u>9.000</u>
		67.560
		72.775

10,000 lamps at 4 hours burning per day, one year 300 days
 60,000 Hrs. which at $2\frac{1}{2}^c$ $\$135.000$
 Expenses 67.560
 $\$67.440$

at 31 percent on $\$219,444$
 " $15\frac{1}{2}$ " " " 438.8911

at 2.00 per Hk
 12 percent on $\$438.8911$

at $\$1.80$ per Hk
 9 $\frac{1}{2}$ percent on $\$438.8911$

at $\$1.50$ per Hk
 5 $\frac{1}{2}$ percent on $\$438.8911$

at $\$1.25$ per Hk
 1 $\frac{3}{4}$ percent on $\$438.8911$

229 947 unincd -
 72 175 expenses

Latent Lamp $\$7,000$

Cost of an "A" plant.

Consisting of the following:

1 1/2 Dynamos.	*	550 00
100 clamps "a"	@ 50	50 00
1 Resistance Box for clamps		21 00
80 Sockets with Keys	@ 1	80 00
30 Cut outs	.22	6 60
100 #12 Plugs	.05	5 00
25 #9 "	.05	1 25
25 #6 "	.05	1 25
150 - Two inch cleats	.65	98
50 - Four " "	.75	38
20 Individual clamps	.08 1/2	1 70
3 lbs 3/4" Staples	.16	48
3 " 1" "	.16	48
3 " 1 1/4" "	.16	48
3 " 1 1/2" "	.16	48
20 Extra Brushes	.40	8 00
Cartage & handling		7 00
Boxing 5 round	@ 6	30 00
		<u>\$ 765 08</u>

Average Weight of wire
 No. 10. 120 lbs
 " 14. 28 "
 " 18. 75 "
 - No. No. 16 -

Cost of a "B" plant.
consisting of the following

1 1/2 Dynamos		550	00
200 Lamps "B"	@ 50	100	00
1 Resistance box for "B" lamps		21	00
160 Sockets with Keys	@ 1-	160	00
30 Cut-outs	@ 22	6	60
100 #12 Plugs	@ 05	5	00
25 #9 "	- 05	1	25
25 #6 "	- 05	1	25
150 Two inch cleats		98	
50 Four "		38	
20 Individual clamps	- 8 1/2	1	70
3 No #3/4 Staples	" 16	48	
3 " 1" "	" 16	48	
3 " 1 1/4" "	" 16	48	
3 " 1 1/2" "	" 16	48	
20 Extra Brushes	.40	8	00
Cartage & handling		7	00
Rolling 5 Rods	6	30	00
		<hr/>	
		895 08	

Average weight of wire

No. 10	240 lbs.
" 14	59 "
" 16	15 "
" 18	76 "

Average No 10-3 Plants B. lamps

No 10- 240 lbs 30 cts per lb
No 14 59 -
" 16 - 15 -
" 18 76 -

1 Plant 40 lbs No 14 - None in the 3 others

Average A lamps

No 10- 120
" 14- 28
" 18- 75

✓ 300 Rockets with Rays 100	300.00
✓ 300 " Plain	150.00
✓ 300 Ent-out-selling 22 ²	66.00
✓ 20 Vertical Mains 30	6.00
✓ 750 Plugs 12 9.6	5 37.50
✓ 15 Arvestas 15 3 light 1.50	22.50
✓ 15 " 3 15 8 " 2.25	33.75
✓ 30 " 8 15 30 "	41.00-120.00
✓ 15 " 30 15 80	7.50-112.50
✓ 1500 lbs No 10 wire 30.	45.00
✓ 500 " " 14 " 30	15.00
✓ 250 " " 18 " 30	75.00
✓ 100 " " 16 " 30	30.00
✓ 100 Ent-out-4 Caps 28	28.00
✓ 10 Arving Brackets 5.25	52.50
✓ 20 " " No 50 301	60.00
✓ 4 Plant boxes A lamp	82.00
✓ 2 " " B "	41.00
✓ 100 Franklin	40.00
✓ 50 lbs Kensi tape and 410	20.00
	1876.75
✓ 3000 A Lamps 50	1500.00
✓ 3000 B " "	1500.00
	4876.75

Bill made out 15th March

1882. Electric Light - Edison Electric Light Company of Europe, Ltd. - General (D-82-028)

This folder contains correspondence, agreements, and other documents relating to the business of the Edison Electric Light Company of Europe, Ltd. Much of the correspondence is by Sherburne B. Eaton, second vice president of the company. Included also is a sixteen page pamphlet, containing agreements between Edison and the company, and a twenty-seven page report by Joshua F. Bailey and Theodore Puskas, dated August 25, 1882. Related material can be found in D-82-038 (Electric Light - Foreign - Europe).

Approximately 70 percent of the documents have been filmed. The following categories of documents have not been filmed: routine company correspondence, such as letters relating to the shipment of goods; proxies and ballots from the stockholders' meeting of May 3, 1882 (Edison's own proxy and ballot have been filmed).

14 Rue de Valenciennes
Paris, Jan 3rd 1882

Dear Mr. Edison,

I have to acknowledge
a letter from Mr. Baschelor which
reads as follows: " Dec. 31. 1881

I have received a cable from Mr.
Edison in which are the following
words: " Tell Dr. Moses will (ask)
(Have to guess at this word) five
hundred dollars must immediate
wants pending action of Edison
Electric Light Co of Europe if un-
able arrange with Porges better re-
turn."

This letter accounts for my cable
- gram of the 1st. " Telegram
conclud. Shall I draw you eight
five hundred?" It is now evident
my dispatch was unnecessary,

(although it became a natural cor-
ollary to Mr. Baschelor's letter) for today
I received a certificate of deposit from
Messrs. Drexel, Hays & Co. for five
hundred dollars, for which I am
obliged to you.

Trusting to your efforts, and
awaiting early news of a suitable
recognition of my services by the
Edison Electric Light Co. of Europe,
I am,

Faithfully Yours
Otto S. Moses

THOMAS A. EDISON,

No. 65 FIFTH AVENUE,

NEW YORK, 17th Jan 1882

Fred. W. Poole Esq
47 W. 14th St

My Dear Sir,

I am anxious to get
part of the money owed
me by the European Co
tomorrow morning and the
Napier Eaton does not
care to take the responsibility
of issuing the Bonds without
the authority of several
of the Directors I shall
be glad if you will
sign the enclosed & return
it to me by bearer. The
Company owes me \$12,000
(\$2,000 Bonds) & my needs
are most pressing
Yours truly

T. Edison

Over

NY Jan 17th 1872

Approval of the issue of \$6000 of
bonds to the Edison on acct of the
European Co's indebtedness to him on the
terms previously agreed upon

Fredrick W. Foote

Approved by Mr. Cook
of name of \$6000
of bonds to the Edison

THOMAS A. EDISON,

No. 65 FIFTH AVENUE,
NEW YORK, 17th Sept. 1882

To
Bryce S. Barton
Vice President
Edison Electric Light Co
of Europe
65 Fifth Avenue City

We approve of the Credit
to Mr Edison of \$6000 Deb.
Bonds on account of
his claim against the
Co. pending the passing
of his account by the
Board of Directors.

J. S. Cunningham

*The Edison Electric Light Company
of Europe Limited*

Re-

65 Fifth Avenue, New York, Jan'y 18, 1882

Dear Sir:

The adjourned special meeting of The Edison Electric
Light Co., of Europe, Limited, will be held at the office
of the Company No. 65 Fifth Ave., to-morrow, Thursday,
at 4 pt m.

Yours truly,



Jrd Vice Pres.

To
Edison Electric Light
Co. of Europe

Please issue
\$4000 of my Debenture
Bonds in the name
of G. Ceccauri
40 J. J. Cisco & Co
59 Wall Street

S. Edison

Recd

Jan 18/82

Barry

1000

1000

1000

Jan 23, 1882

Letter of authority from
J. A. Edison to issue
20 Bonds in name of
C. B. Farley.

1882-01-23

N. Y. Jan 23, 1882

Major Eaton

2nd Vice Pres.

Edison Electric Light Co of Europe L^{td}

Dear Sir:

Will you please issue
twenty (20) of the Debenture Bonds
of this Company authorized by the
Board of Directors, in the name of
C. B. Farley of Scabody, Mass.

Yours truly

J. A. Edison

J. A. Edison

*The Edison Electric Light Company
of Europe Limited*

135 Fifth Avenue, New York, January, 31st. 1882

Dear Sir:-

The regular quarterly meeting of the Directors of
the Edison Electric Light Co. of Europe, Limited, will be
held at this office to-morrow, Wednesday afternoon at 4 P. M.

Yours truly,

S. B. Eaton.

Second Vice President.

per M.M.

TRANSLATION

— OF —
THE CONTRACT OF NOVEMBER 15, 1881,

— BETWEEN —
THE EDISON ELECTRIC LIGHT COMPANY
OF EUROPE, LIMITED,

— AND —
MESSRS. PORGES AND LÉON.

— ALSO OF —
SUPPLEMENTARY CONTRACT OF FEBRUARY 2, 1882,

BETWEEN SAME PARTIES.

NEW YORK,
C. G. BURGOVNE, PRINTER, 29 ROSS STREET,
1882.

(The following translations were made by Mr. J. F. BAILEY, at New York City,
September 20, 1882.)

BETWEEN

1st. MR. THOMAS A. EDISON, residing at New York, represented by MR. JOSHUA F. BAILEY, residing at present at Paris, 33 Avenue de l'Opera, in virtue of powers hereto annexed;

2d. THE EDISON ELECTRIC LIGHT COMPANY OF EUROPE, LIMITED, whose domicile is at New York, represented by MR. JOSHUA F. BAILEY (address as above), in virtue of powers hereto annexed, and hereinafter named the LIGHT COMPANY;

MR. EDISON and the LIGHT COMPANY, acting together and jointly and severally.

Of one part;

And MR. CHARLES PORGES, residing at Paris, Rue Blanche No. 2, and MR. ELIE LÉON, residing at Paris, Rue Lesueur No. 1;

Of the other part;

The following has been explained between the two parties:

MR. EDISON and the LIGHT COMPANY desiring to secure the exploiting of the patents taken and to take in the different countries of Europe hereinafter named, for the inventions of Mr. Edison, for measuring, distributing and applying electrical currents for the production of the electric light and for motive power, and Mr. Porges and Mr. Léon being disposed to charge themselves with the financial and commercial arrangements necessary to the

above end, the parties have agreed between themselves on the following:

ARTICLE FIRST.

Mr. Porges and Mr. Léon engage to form, in a period of six weeks from the date of these presents, three anonymous companies, under the law of the 25th of July, 1867, to wit:—

- 1st. A Society for manufacture;
- 2nd. A Society for exploitation;
- 3rd. A Society for isolated installations;

the which companies will operate and act under the conditions hereinafter indicated.

ARTICLE SECOND.

The duration of the Exploitation Company shall be fifty years with a capital of one million francs, divided in four hundred shares of two thousand five hundred francs each, which cannot be divided into a greater number of shares of a smaller amount during five years. Mr. Edison and the Light Company jointly and severally promise, from this time forward to bring to this society all the patents already taken by Mr. Edison, such as they are, without any other guarantee than that of their existence, for the said inventions as well as for all objects and the apparatus that may be used for the electric light or for motive power, and their sale in all that relates to the exploitation or manufacture. Mr. Edison and the Light Company engage themselves also to bring all the patents of improvement and all the patents for all new inventions that shall be taken during five years from the date of the present contract by Mr. Edison.

3

This contract only has reference to the following countries:

- 1st. France and the French Colonies; (Paris with its Banlieue, Versailles included, excepted).
- 2nd. Belgium;
- 3rd. Denmark;
- 4th. The German Empire;
- 5th. Austria and Hungary;
- 6th. Russia;
- 7th. Italy;
- 8th. Spain, (The Spanish Colonies excepted).

These countries being all those in which Mr. Edison has taken patents for the inventions herein above described: the United Kingdom of Great Britain and Ireland, Portugal, Sweden and Norway are not included in this session. In addition Mr. Edison and the Light Company engage during five years commencing from the day of the signature of the present contract, to give to the Company of Exploitation all descriptions and all designs or models that may be necessary for the taking of patents for all inventions or all improvements in all countries comprised in the present contract. In addition, at the expiration of the said five years, Mr. Edison promises expressly, for twelve years additional and without any guarantee, except that of their existence, to furnish all that may be necessary for the taking of patents for inventions made by him during this period, which patents ought, as shall be said hereinafter, to be offered to the Company of Exploitation.

All these patents shall be taken in the name of Mr. Edison, but the rights of property of the Company of Exploitation in the said patents will be the same as those granted for the patents already taken. All the expenses which shall be made in furnishing descriptions and the designs or models, shall be paid by the Exploitation Company, as well as all annuities and expenses

made or paid for the taking of the new patents, commencing from this date.

All the patents already taken and forming the object of the present social contract shall be given to Messrs. Porges and Léon in fifteen days from the date of this contract, to be by them turned over to the Company of Exploitation.

These patents will remain in the possession of the anonymous Company, and will be at the disposition of Mr. Edison and the Light Company for the exercise of their rights as specified hereinafter. If the delivery of the patents should be delayed by any cause whatever beyond the term of fifteen days, the time given to Messrs. Porges and Léon for constituting the abovementioned companies, will commence only from the day on which the delivery of the patents shall have been effected and shall be reduced to four weeks, counting from the date of delivery of the said patents.

In addition, Mr. Edison and the Light Company engage whenever it shall be required of them to give their aid to the accomplishment of the legal formalities necessary for giving to the Exploitation Company the exclusive right to the said patents already taken, or to be taken, and which are the object of the present contract.

The Light Company engages not to exploit directly, or indirectly, the inventions of Mr. Edison, so far as these relate to the electric light or to motive power, in any of the countries of Europe where the laws do not recognize the existence of patents.

It is well understood that the said patents in all that concerns all the other objects than those hereinabove named, remain the exclusive property of Mr. Edison and of the Light Company, and that the Exploitation Company will have the exclusive property only in what concerns the objects hereinabove declared.

If the laws of countries outside of France do not permit the division of the property in the patents in the manner provided for by this contract, Mr. Edison and the Light Company are to transfer to the Exploitation Company the exclusive right to the sale of all these patents for the objects declared in the preamble and Article 2 of this contract.

ARTICLE THIRD.

The Exploitation Company has for its object the sale of the patents, the granting of licenses, in a word, the giving of value under whatever form it may be, to the said patents, and this according to the conditions hereinafter stipulated.

The capital of the said company shall be employed in conformity to the decisions of the Board of Directors in making experiments or installations, in giving publicity, and in any other way that it shall judge desirable in view of attaining the end that is hereinabove indicated.

In exchange for the contribution of Mr. Edison and of the Light Company, the said Light Company will receive Founder's Parts in the Company of Exploitation, giving it the right to 80 per cent. of all the profits realized by the said company, but under the following reserve; all the profits shall be allotted as follows:

- 1st. To the payment of the general expenses.
- 2d. To the legal reserve of $\frac{1}{50}$ of the profits.
- 3d. To the percentage allowed according to usage to the Board of Directors.
- 4th. To the repayment of the shares at par.
- 5th. To the Parts of Founder, and to the shares that take the place of the original shares on the reimbursement of the capital; the profits coming to the Parts of Founder and to those

shares shall be divided in the following proportions, no matter what may be the increase of capital:

Eighty per cent. to the Parts of Founder.

Twenty per cent. to the Shares of the Company.

ARTICLE FOURTH.

In all sales or conveyances of patents, or rights attaching to them the rights reserved in this contract by Mr. Edison and the Light Company, shall be expressly guaranteed to them.

The entire sale of one or several of the patents in any country of Europe, or the giving of a license for any one of these countries, cannot be made, except by express consent, given in writing, by the Light Company. In the case of the sale of the patents for a city or for a region, the price shall be determined by the number of the inhabitants, in accordance with what is explained in the following paragraph:

It is understood that when it is proposed to concede the right of exploitation for an entire city or for a district by the transmission of the electric current from a central station, the Exploitation Company ought only to make this concession to a local company having a share capital of at least two millions of francs for every hundred thousand inhabitants (or according to this proportion) in the given territory, and the price of the patents shall not be less than 45 per cent. of the said capital. The necessary engagements shall at the same time be passed to secure to the Exploitation Company an equal part in every subsequent increase on the capital of the said local company.

ARTICLE FIFTH.

The Light Company reserves to itself the right to accept or refuse all contracts which the Exploitation Company may propose

to make in virtue of the last paragraph of the preceding article, and without its acceptance no contract shall be valid; and to this end the Light Company shall make known its acceptance and its refusal either directly or by its representative at Paris, duly accredited by it, and this within the term of fifteen days after notification of the proposed contract shall have been given by the company of exploitation at the domicile chosen by the Light Company at Paris.

ARTICLE SIXTH.

In case that, availing of the right reserved to it in the preceding article, the Light Company should refuse a contract proposed by the Exploitation Company, the Light Company shall be held to make another contract within three months of the date of such refusal, with conditions more advantageous than those proposed by the Exploitation Company, and to present it for acceptance of the said company. In this case, the Exploitation Company will retain the right to so per cent. of the profits resulting from said contract, so concluded by the Light Company.

If, on the contrary, the Light Company should not succeed within the term of three months in making another contract with better conditions, the Exploitation Company will have the right in any contract afterwards made by itself for the same purposes as those proposed in the first contract to 5 per cent. of the profits, at a fixed indemnity to be paid by the Light Company, in addition to the so per cent. above provided for.

ARTICLE SEVENTH.

The Exploitation Company, when it shall make a cession of the said patents or of any one of them to other exploitation companies, shall stipulate (unless the laws of the country where said

companies shall be formed are opposed to it) that a third, at least, of the Board of Directors in the said companies shall be designated by the Exploitation Company, which engages with the Light Company to reserve to it the right of naming, at least, one of the directors in the third that the Exploitation Company will have the right of naming. The Exploitation Company shall take upon itself the obligation of preventing the assignees or persons to whom it may grant licenses of the patents from using the patents, except for the objects declared in this contract.

ARTICLE EIGHTH.

The number of directors of the Exploitation Company shall not be less than three. The directors shall be made statutory for three years, and the Light Company will have the right of naming one-third of the members of the Board of Directors.

ARTICLE NINTH.

The Exploitation Company shall, if it desires to make isolated installations or experiments at Paris, obtain for this purpose the authorization of Mr. Léon or his assignees to whom the Light Company has given the right of forming a company for the exploitation of the Edison light in Paris and in its Banlieue, Versailles included, according to the terms of the contract bearing the date of the 6th of June, 1881.

The Exploitation Company shall be held in case that Messrs. Forges and Léon or their assignees should form a company for the exploitation of the Edison patents at Paris, to turn over to this company the installations made by the Exploitation Company at cost price, with a profit of fifteen per cent. added.

The Exploitation Company shall also engage to assume the expenses and fees to be paid by the two parties to the present con-

tract, as well as the expenses for the experiments of the Edison Light that may be made hereafter at the Opera of Paris, in the case that they should not be paid by the persons having the right of exploitation of the Edison patents in the City of Paris and its Banlieue, Versailles included.

ARTICLE TENTH.

In case that Mr. Léon or his assignees should not constitute within a period of six weeks from the date of this contract the company that they have the right to form for the exploitation of the Edison light in Paris and its Banlieue, Versailles included, the right to exploit the said patents in Paris and its Banlieue, Versailles included, shall belong to the Exploitation Company, and shall be subject in all respects to the conditions of the present contract.

Mr. Edison and the Light Company will have the right of taking part with the Exploitation Company or its assignees in all suits against infringers of the said patents, and in all other actions relating to the said patents, which the Exploitation Company shall judge necessary to institute, or which may be commenced against the said Exploitation Company.

ARTICLE ELEVENTH.

For all new inventions made by Mr. Edison during the period of twelve years following the five years provided for in Article First, or for all patents taken for the same objects in the countries comprised in this contract, Mr. Edison shall offer to the Exploitation Company the sale of the said patents for the same objects and to the same extent as is provided in the case of the patents now in existence.

In the case that Mr. Edison and the Exploitation Company should not be able to come to an agreement as to the price of such sale, they engage upon their honor to leave it to the decision by arbitration.

ARTICLE TWELFTH.

Messrs. Porges and Léon engage at the same time to create an anonymous company under the law above named with a capital of a million five hundred thousand francs whose object shall be the manufacture of material and apparatus necessary for the exploitation of the patents heretofore named. The said manufacturing company shall create and deliver to the Light Company Parts of Founder, giving to it the right to 50 per cent. of the net profits, whatever may be the increase of capital.

The Exploitation Company shall authorize the Manufacturing Company to manufacture in virtue of the said patents, but no sale shall be made in any country above named to any person who shall not have obtained a license from the Exploitation Company.

The Manufacturing Company will furnish all apparatus necessary to the Exploitation Company or to holders of licenses from it at a profit not exceeding 20 per cent. and Mr. Léon engages himself for himself and for his assignees in virtue of the said contract of the 6th of June, 1881, to authorize the said Manufacturing Company to have the seat of its exploitation at Paris.

The profits of the Manufacturing Company shall be allotted as follows:

- 1st. To the payment of general expenses;
- 2d. To the legal reserve;
- 3d. To the payment of six per cent interest on capital paid in;

4th. To the percentage usual for the Directors;
5th. The twelfth of its profits shall be set aside for the amortisation of its capital; the remaining profits shall be divided as follows:

- 1st. Fifty per cent to the founder's parts;
- 2nd. Fifty per cent to the shareholders.

ARTICLE THIRTEENTH.

The authorization given to the Manufacturing Company shall not be exclusive, but Messrs. Porges and Léon, or the Exploitation Company, the latter as their assignee, may organize or cause to be organized other manufacturing companies in France or elsewhere for the same objects and on the same conditions, but reserving in all the cases the same proportion of the profits to the Light Company and causing the said proportion of profits in all countries where the laws allow of it to be represented by parts of founder equivalent to those authorized by the French laws.

ARTICLE FOURTEENTH.

Messrs. Porges and Léon engage besides to organize another company for the exploitation or the sale of the right of exploitation of isolated installations as distinguished from the installations in which the light is furnished by the central station.

This company shall have a capital of one million francs; it shall create and turn over to the Light Company Parts of Founder giving to the Light Company the right to 60 per cent. of its net profits. The profits shall be applied:

- 1st. To the payment of general expenses;
- 2d. To the legal reserve of $\frac{1}{50}$ of the profits;

3d. To the percentage allowed to directors according to custom;

4th. To the reimbursement of the shares at par;

5th. All the remaining profits shall be divided as follows :

Sixty per cent. to the said Parts of Founder, and forty per cent. to the shares issued in replacement of the capital shares.

The special object of this society shall be to exploit or to authorize the exploitation of patents in the cities of a population of ten thousand inhabitants or under, as well as all isolated installations, even in cities of more than ten thousand inhabitants.

This right of making the isolated installations in the cities, whatever may be their population, shall cease when a central station shall have been established in these cities by the Exploitation Company, which company or its assignees ought then to have the exclusive right in these cities commencing with the day of the establishment of the said central station, but without prejudice of the rights acquired up to this day by the assignees of the Society of Isolated Installations. The Society for Isolated Installations shall not in any case grant the rights of exploitation in block, but shall make it the object of a special grant to each customer.

The Light Company shall have the right of naming the half of the statutory directors of the Company of Isolated Installations.

It is understood to the contrary of the preceding paragraphs of this article that the Exploitation Company shall have the right to authorize the exploitation of cities of ten thousand inhabitants or under by a central station, and it may grant the whole of any city to a local company constituted for this purpose. The profits realized by such concession shall belong wholly to the Exploitation Company and not to the Company of Isolated Installations.

It is well understood that this concession of cities of ten thousand inhabitants and under can never take place except for single cities separately and never for several cities together.

ARTICLE FIFTEENTH.

The Exploitation Company shall grant the necessary authorization to the Company of Isolated Installations as well as to the Manufacturing Company for the purpose of giving to each one of the said companies the rights of which they will have need for making use in the limits of the concessions that shall be made to them of all the patents already taken or to be taken.

ARTICLE SIXTEENTH.

For the execution of these presents M. Porges chooses his domicile at Paris, Rue de la Chaussée d'Antin, No. 27, and M. Leon at Paris, Rue Lesseur, No. 1.

And the Light Company and Mr. Edison elect domicile at Paris, 33 Avenue de l'Opera and accept the jurisdiction of the Tribunals of the Department of the Seine.

Made double at Paris, 15 November, 1881, in the presence and with the accord of Messrs. G. P. Lowrey, counsellor of New York, and Mr. Charles Batchelor.

Read and approved.

Signed:

G. P. LOWREY, J. F. BAILEY,
CHARLES BATCHELOR.

Read and approved.

Signed:

CHARLES PORGES.

Read and approved.

Signed:

E. LÉON.

SUPPLEMENT TO THE ABOVE CONTRACT.

Executed under date of February 2d, 1882.

(This supplementary contract is in replacement of Article Fourteen of the contract of November 15, 1881. This article was found to be involved and contradictory in its definition of the relations of the Compagnie Continentale and the Society for Isolated Installations, and this Contract entitled "Supplementary Contract," is simply the old Section 14, re-written so as to say clearly and consistently what all parties were agreed the said section was meant to declare.)

The undersigned:

1st. Mr. Thomas Alva Edison, residing at New York, represented by Mr. Joshua F. Bailey, residing at present at Paris, No. 33 Avenue de l'Opera, in virtue of powers to him given.

2d. The Edison Electric Light Company of Europe, Limited, whose domicile is at New York, represented by Mr. Joshua F. Bailey above named, in virtue of powers to him given, and hereinafter named, "The Light Company."

Mr. Edison and The Light Company acting together, and jointly and severally.

Of the first part;

And Mr. Charles Porges, residing at Paris, Rue Blanche No. 2, And Mr. Élie Léon, residing at Paris, Rue de Lesseur No. 1,

Of the second part;

Have agreed to the following:

The Article Fourteen of the contract of November 15th, 1881, is suppressed and replaced by the following:

Messrs. Porges and Léon engage to organize another society for the exploitation and the sale of the right of exploitation of the

isolated installations as distinguished from the installations for which the light is furnished by a central station.

This Society shall have a capital of one million of francs; it shall create and turn over to the Light Company Parts of Founder giving right to the latter to 60 per cent. of the net profits

The profits shall be applied as follows:

- 1st. To the payment of general expenses;
- 2d. To the legal reserve of $\frac{1}{20}$ of the profits;
- 3d. To the usual percentage allowed to Directors;
- 4th. To the repayment of the shares at par;
- 5th. All the profits remaining shall be divided as follows: 60 per cent. to the said Parts of Founder and 40 per cent. to the shares issued in replacement of the capital shares.

The special object of this Society of Isolated Exploitations shall be to exploit or to authorize the exploitation of the patents by isolated installations, whether outside of the cities, on land or on sea, whether in cities of a population of ten thousand inhabitants or under, or even in cities of more than ten thousand inhabitants as long as for these cities of more than ten thousand inhabitants a central station shall not have been established by the Compagnie Continentale.

From the time that the Compagnie Continentale shall thus have established a central station in a city of more than ten thousand inhabitants, the Society of Isolated Exploitations shall cease to have the right to create or to establish new installations and will limit itself to those isolated installations that shall have been already established in cities of more than ten thousand inhabitants, and the Compagnie Continentale shall have, commencing from this day, the exclusive right of making for its own account all new isolated installations.

As to the cities of ten thousand inhabitants or under and outside of cities, whether on land or on sea, if the Compagnie Contin-

entale should establish a central station in one or several of such cities of ten thousand inhabitants or under, the Society of Isolated Exploitations shall nevertheless, preserve the right of continuing to make isolated installations, the Compagnie Continentale having the right for a central station in cities of ten thousand inhabitants or under. As to the isolated exploitations, whether in cities of ten thousand inhabitants or under, or in cities of more than ten thousand inhabitants, in no case shall the society for isolated installations make concessions in block, but shall make only special concessions to each customer.

Also if the Compagnie Continentale should treat for a Central Station in one or several cities of ten thousand inhabitants and less, it can only treat city by city and never several cities together.

The Light Company shall have the right to name one-half of the Statutory Directors of this Society of Isolated Installations.

Finally, the license to be granted by the Compagnie Continentale to the Society for Isolated Installations, shall include all the rights of which the said company will have need, for making use within the limits of the concessions that shall be made by the Compagnie Continentale of all the Edison patents already taken, or that shall be taken exclusively for the light and for the transmission of force.

Made double at Paris, 2d of February, 1882.

Read and approved.

Signed :

J. F. BAILEY.

Read and approved.

Signed :

CHARLES FORGES.

Read and approved.

Signed :

E. LÉON.

Memorandum *11/20 1889*

From
Roth, Wethering & Bolls
No. 120 Broadway
New York

To Edison Electric Light &
Power Co. Limited

To Professional Services

Spt 15 Consultations in Paris
6 & London with French &
English Gov. Examiners
Oct 7 French & English Patents
of Edison, Swan, & L. G.
Ladouceur on same
Expenses for copies of
Patents

300.00
6.50
<hr/>
306. ⁵⁰ / ₁₀₀

R. D. Fay

with Hunt

Roth, Wethering & Bolls -

Major Eaton
I have received
from Parkes & Bailey
a cablegram asking
whether this 5% contract
has been settled.

Can you give
me some information
on the point and
would like to
reply to their
enquiries

Saml Insull

15th Mar 82

Mr Insull

The five per cent contract has not been settled. I

believe Mr Lowrey thinks it will be necessary for Bailey to come
over here before it will be settled. If Bailey is incapacitated
for work probably there is no reason why the company should make the
contract at all. Certainly our business now is not receiving any
attention whatever and I get little or no information about the
European company from abroad. That is all wrong. We ought to
employ somebody there, either Bailey or somebody else, to guard
our interests and keep us posted. But Bailey is reported to be in-
capacitated permanently for hard work.

S. B. Eaton

March 16th. 1892.

per Mr. G.

CAPITAL 1,500,000.

EDISON GOWER-BELL TELEPHONE COMPANY OF EUROPE, LIMITED.

RECEIVED

APR 8 1882

6 Lombard Street,

ANSWERED

London, E.C. 188

DIRECTORS.
GEORGE SOUTHWICK, CHAIRMAN
MR ALEXANDER ARMSTRONG, C.B.E.
MR JOHN VOYLES, C.B.E.
MR J. JOHNSON, C.B.E.

Mr. A. Edison
65 5th Avenue
New York.

My dear Edison,

Enclosed find an order for 14 shares of European Electric Light Stock from Bailey will you please have these 14 shares put in my name and send to me out of the 50 shares that Bailey put up as security for ~~the~~ the Blackledge affair which he says you yet hold

Yours,
"Batch"

Edison's copy

[ENCLOSURE]

Thos. Brownlee, London 20 March 1882
Dublin; Please
deliver to the care of Mrs. Katherine
Ellen, shares E. Eighty Shares from the fifty
received for me from Superior
J. H. Bailey

*The Edison Electric Light Company
of Europe Limited*

65 Fifth Avenue New York April, 13th, 1888

Dear Sir:-

A special meeting of the Directors of the Edison Electric Light Co. of Europe, Limited, will be held at No. 65 Fifth Avenue, on Thursday, April 13th., at 4 o'clock P. M., to consider the question of raising \$3000 to pay the interest on the Debenture Bonds of the Company, maturing May 1st.

Yours truly,



Second Vice President.

*The Edison Electric Light Company
of Europe Limited*

65 Fifth Avenue, New York April, 15th, 1882

Dear Sir:-

A special meeting of the Directors of the Edison Electric Light Company, of Europe, Limited, will be held on Tuesday, the 18th. inst., at the office of Messrs. R. L. Cutting, Jr. & Co. at 1:30 P. M. to consider the question of raising cash to pay the interest due May 1st. on the bonds of this Company.

Yours truly,



Second Vice President:

THOMAS A. EDISON,
No. 65, FIFTH AVENUE,

NEW YORK, *April 20-1881*

*Received of Thomas A. Edison
Belgium Patent No. 53,073
granted on September Nov. 30.
1880-*

*Edison Electric Light Co. of Europe Ltd
By W. H. Heywood
Secy*

Season Ticket Light of Europe. Jan 1

Ashley, Edward W.	3
Ayers, James L.	5
Altop, Henry W.	22
" Mrs Sadie B.	3
Banker, James H.	3333
Banker, George D.	25
Bailey, J. D.	50
Bass, Edgar W.	10
Balchelor, G.	484
Brand, John	3
Bathurst, Charles	10
Bergman, S.	25
Blanker, Samuel	190
Cauffman, William	60
" G. E.	4
" C. B.	6
Clarke, Chas. L.	20
Cauffman, Charles L.	3
Cleave & Higginson	10
Castellolognessi, Jacques	13
Cergua, A. E.	2
Crowell, Eugene	25
Croster, C. H.	5
Cox, Kenyon	25
Colby, C. A.	20
Coddington Herbert	110
Cutting, R. L.	515
Ford	5084

Ford	50.87
Cutting, R. L. Jr & Co.	350
" " H. L.	175
Cunningham, Mrs Mary E.	1
Curtis, Geo H.	1
de Pistas Francis	1000
Divine, Michael H.	5
Dobson, R. B.	5
Dearing James	10
Edison Thomas A.	6864
Earl, William M.	14
Eaton, S. B.	55
Faber, Alfred	5
Fabbi, E. P.	1690
Fatman, S. J.	10
Fisk, James D.	10
Forbes, John E.	1
Foot, Frederick H.	60
Fordner, William H.	1
Griffin, S. L.	44
Goodenhofer, Fredric B.	3
Goodard, Calvin	5
Power George Lewis Atty	345
" George Lewis " for F. A. Power	150
Harland, Thomas	200
Hequiasch, A.	40
Ford	15.591

Ford	15.69
Holgate, A. L.	5
Gaffney, Robt. Jr.	1
" Mrs Lydia Butler	1
Imbrie, N. T.	9
Jehl, Francis	3
Johnston, L. C.	30
Jones F. H.	9
Johnston F. W.	7
Johnson, Edward M	10
Judson & Newton	2
Insiell, Samuel	14
Kreusi, Geo	20
King, Charles W.	3
Knight, Geo W	3
Ladd, Gaud E.	2
Livingston, Newman	1
M ^{rs} Laughlin, Frank	155
M ^{rs} Nelson, P. C.	2
Meadowcroft, W. H.	1
Meeker W. B. & Co.	10
M ^{rs} Lane, S.	3
Miller & Peck	200
M ^{rs} Dimmitt Geo Jr	5
Ford.	16.190

Dord	16.190
Mr Jimmy R. M.	15
Miller, W. P.	600
Mott, Saml. D.	10
Moore, W. H.	5
Moses, Otto A.	50
Morgan T. W.	5
Morse, M. F.	5
Moller & Co.	11
Mott, Charles P.	2
Murphy, James	45
Nickerson, J. H.	5
Norris, Mrs Maria	1
Panows, Levi	10
Pelton, Guy P.	19
Quay H. S.	143
Seacock Mrs L. B.	5
Porter, John H.	10
Ruskas, Theodore.	190
" & Saportas	1168
Randolph, Margaret A.	2
Saportas, A. J.	5
Samson, H. L.	100
Smith, Chester J.	2
" Luta V.	1
" Mortimer F.	5
Dord	1859 1/2

Ford	18,596
Smithers Mrs Louisa M	4
Silleck Geo M	3
Schoeder Cha.	2
Soren, George W.	10
Squires C. W.	5
Unger Cha. & Co.	2
Upton, T. F.	425
Van Hoffmann, L. & Co.	150
Wätjen Louis	110
" Tol & Co	5
Watton, Jared	1
Wannen Schuyler & Co.	500
Wallerstein M	142
Whiting Miss Mary A.	10
" Bradford A.	10
" Lamartine	5
Wilber, M. A. B.	10
" Tom B.	10
	<u>20,000</u>

I hereby certify the foregoing to be a true and correct list of Stockholders of the Edison Electric Light Company of Europe Limited and their respective holdings at the close of business April 22nd 1882.

H. W. Buckley
Transfer Clerk.

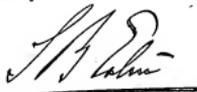
*The Edison Electric Light Company
of Europe Limited*

65 Fifth Avenue, New York. April, 20th. 1882

Dear Sir:-

A special meeting of the Directors of The Edison Electric Light Co., of Europe, Limited, will be held at the office of R. L. Cutting Jr. & Co., to-morrow, Saturday, at 11:30, for the purpose of considering a proposition submitted to us from Paris for our consideration in regard to the price to be charged for a license to a German Company for that Country.

Yours truly,



Second Vice President.

Know all Men by these Presents, That
 I, Thomas A. Edison of Menlo Park, N. J.

do hereby constitute and appoint Samuel Insull

Attorney and Agent for me and in my name, place and stead, to vote as
 my proxy at ~~any~~ ^{the} election of Directors of The Edison Electric Light Company of New Jersey
 Limited, at the annual stockholders meeting of said Company to be held on the
3rd day of May, 1902
 according to the number of votes I should be entitled to vote if then personally
 present.

In Witness whereof, I have hereunto set my hand and seal
 this 29th day of April < one thousand eight hundred
 and eighty two >

Sealed and delivered in the presence of

W. P. Mott

Thomas Edison 

[ATTACHMENT]

FOR DIRECTORS

Edison Electric Light Company of
Europe, Limited.

May 3, 1882.

Thomas A. Edison.

James H. Banker.

R. L. Cutting.

Frederick W. Footel

S. B. Eaton.

*I note the above
ticket for
Photo Edison
6364 Charles
Lambert*

State of New York
City and County of New York }^{as:-}

Charles F. Hamington, and J. M. Gowen
being severally duly sworn, each for himself, says:
that he will discharge with fidelity the duties
of his office of Inspector of election of Directors of
the Edison Electric Light Company of Europe, Limited,
at the annual meeting of the stockholders of said
Company held this 3rd day of May, 1882; that
he will not receive any vote but such as he
believes to be legal, nor reject any vote which he
believes to be legal.

Subscribed and sworn to }
before me this 3rd day of }
May, 1882 }
}

C. F. Hamington
J. M. Gowen

Wm. H. Meadowcroft
Notary public
N. Y. Co.

State of New York
City and County of New York

33)²²
We Charles F. Hamington and J. M. Gowen,
the Inspectors of the election of Directors had at the
annual meeting of the stockholders of The Edison
Electric Light Company of Europe, Limited, held this 3^d
day of May, 1882, duly report that having first
taken and subscribed the oaths hereunto annexed, we
entered upon the duties of our office as such Inspectors
as aforesaid; that on the closing of the polls we
canvassed and counted the votes cast, and find that
there was present at such meeting, in person or by
proxy, holders of Nine thousand nine hundred and
twenty three shares of the Capital Stock of the said
Company; that there were cast at such election
Nine thousand nine hundred and twenty three (9923)
votes; and that all of them were cast for the
following named persons as Directors for the ensuing
year, namely; Thomas A. Edison, James H. Banker,
Robert L. Cutting, Frederick W. Fookes and S. B. Eaton.
Dated May 3^d 1882.

C. F. Hamington
J. M. Gowen

*The Edison Electric Light Company
of Europe Limited*

65 Fifth Avenue, New York, May, 5th, 1888

Dear Sir:-

I beg to notify you that you were elected a Director of the Edison Electric Light Company of Europe, Limited, at the annual meeting of stockholders held May, 3rd, 1882, and you are requested to attend a meeting of such Directors to be held at the office of R. J. Cutting, Jr. & Co., 19 William St., to-morrow, Saturday, at 2 o'clock P. M., for the purpose of electing officers for the ensuing year, and for the purpose of considering certain contracts just received from Paris.

Yours truly,



Second Vice President.

Personal

No. 33, Avenue de l'Opera. Paris

May 28, 1882

Dear Sir,

Mr. Puskas is in Buda Pesth and we have telegram this morning that seventy four lamps were lighted in the ministry of Telegraphs last night amid great enthusiasm. Batteux came back from Comanc this morning where an installation has been made at Sarguerminal, the greatest porcelain factory in the world, with 3500 hands. The lighting up was a grand fête, hands of music.

The object of this letter is to ask your special attention to the affairs of Puskas & Bailey with Light Co. of Europe.

We have written ^{to my letter} about the 5% matter, and about the representation. As to the 5% we ask that the parts of founder (5%) be passed to us without reserve. At the same time we are willing to engage to give our attention to the interests of the Company during "three years". This, not reluctantly, for we have pleasure and pride in association with this great enterprise, the product of your genius. The service we have given to it and to the Company has not been given gratuitously and we have not waited for guarantees of payment or recognition in advance of doing the work. We hope that the Company will see fit to accede our proposition without hesitation.

Regarding representation. From the day that the contract was signed, questions have constantly presented themselves where the interest of the Light Co. of New York and those of the French gentlemen were in conflict, on two or three occasions.

these difficulties have gone almost to the point of a serious quarrel. For the firmness and courtesy with which your interests have been maintained, it is for others to speak. But the general result is testified to by the fact of the good relation in which we stand as shown by the fact that Mr. Bailey is, with a representative of the French party, managing Director of the Company. It is not too much to say that the greater part of the work done up to the present in the administration of the French Companies and the determination of its policy, in the main has been from us. Whiting in confidence to you, we say that we think the mention made of us in the annual Report was not at all what it should have been. Patachelor, observation on reading it was "I don't know what the Hell is named for in that way. It was all Bisher & Bailey". We have no jealousies or differences with Patachelor. To the contrary we are in full confidence, we recognizing the prime importance of his work and his capacity in it; as he does ours, in our place.

In the letter written to Major Eaton regarding the representation we have written squarely, and as was necessary to our self respect. In writing to you, personally, we say that the main object of our work and the risks we have taken was to connect ourselves with the great enterprise in an honorable manner. We know your readiness to recognize such service and we count with confidence on you not to allow any petty personal hostility of any one in the Company toward us to come between its interests and the discharge of honorable obligations toward us.

17-2-24x4
10.2-2.2441

4
Maggie
Clyde Kelly

Handwritten text, possibly a letter or document, written in cursive. The text is mostly illegible due to blurring and is oriented upside down relative to the page's main text.

The Edison Electric Light Company
of Europe Limited

155 Fifth Avenue, New York, June 1st 1882

Samuel Insull, Esq.

Dear Sir:

I shall be glad to receive your analysis
of Mr. Edison's accounts against the European Company,
which you said would be furnished last week.

Our Directors are very impatient to have
the accounts rendered in Paris, as the longer the
matter is left the more difficult it will be for us
to collect the money due to us.

Yours truly

W. H. Alledowncroft
Secy.

P.S. The enclosure explains itself.

Mr. Edison,

Here is a letter this day received from Mr. Bailey.

Like most of his letters it is not quite as clear as might be

wished. But it is so seldom we get any word whatever

from him, that I send you a copy in order that you may see all

that comes.

S. B. Eaton.

July 10th. 1882.

Par No. 6.

[ENCLOSURE]

Cie CONTINENTALE EDISON.

Paris. 28 June 1882.

Maj. Eaton.

2 V. P. & Manager &c.

Dear Sir:-

It is proposed to issue founders parts as follows:

8000 parts for the Cie Continentale.

3000 " " " Electrique &

3000 " " " Industrielle.

The proposition of 8000 parts for Continentale is made because it is proposed at an early date to increase to 2000 the number of shares. As the Continental receives 20 per cent of the proceeds of exploitation, the market price of the Continental shares would always serve to fix the price of the founders parts. There are advantages in this which can be better explained by Mr. Bailey on the occasion of his visit to the states, which will be very soon. He leaves for Italy to-morrow and will be there during perhaps ten days. He counts on leaving ten days after his return. This whole subject of founders parts is one that will be better treated verbally than by letter, for which reason we submit any discussion of it.

Very truly yours,

Puskas & Bailey.

SOCIETE ELECTRIQUE EDISON
Societe Anonyme
Au Capital de 1 million de francs

Paris, le 21st July 1892

Exposition Internationale l'Electricite
Paris 1891.
GRAND DIPLOME D'HONNEUR.

Major J. N. Eaton

New-York

Dear Sir:-

We note your observations letter of July 7 regarding
press copying, & thank you for calling attention to it.

Enclosed herewith please find, (1) Copy of letter from
Mr Seubel giving account of plants now working in Germany, (2)
Copy of the Balance Sheets (translated into English) of the Cie.
Continental, & Societe Electrique for the exercise ending June
30 '92.

We are unable to-day to furnish the detailed list of
installations asked for, but have put it in hand.

The Italian & Holland contracts are being translated by
public translator, & will be finished for to-morrow.

Regarding the price of installations, we sell a 00 A
lamp plant with all accessories at 0,500 francs. It costs us in
the custom house at Antwerp or Hambourg 3750 fcs. When it comes
out there is an average of 300 fcs for storage & freight. We
furnish to the Italian, & Holland, & German companies at cost price
all Machines etc., coming from states, & even then they are too
dear to compete with others. Also in the case of most install-
ations made directly by us, we keep in our own interest an en-
gineer to look after the plant, at cost varying from 200 to 1000
fcs. For example, we have had a plant at Steyer, Austria, for
two months past, & an engineer remains with it to-day. At Berlin

we have only four plants, but Seubel has remained there for nearly three months.

Regarding the "loss" shown in balance of two companies, it is on the payment made, & shared by them, to the old Paris syndicate for the Exposition & Opera.

7
Bailey will sail August 5. Mr. Rau will probably get out in another ten days.

In explanation of irregularity of correspondence, Bailey has been in Holland, Italy, or Germany, the greater part of time for four months past, & when here is pressed by current business.

The parts of founders are being prepared, but have not been hurried up, it being considered desirable to have the understanding with you referred to in one of our previous letters, & which cannot well be established by correspondence.

Very respectfully & truly yours,

Puskau & Bailoy.

EXPENSES.

Losses, Edison Syndicate	44,273.10
▪ Exhibition	4,550. "
▪ Discounts	32.85
▪ Upon Exchanges	397.90
▪ Duty on Subscribed capital to March 31	73.85
▪ Income Tax	670.00
▪ Travelling expenses	4,994.10
▪ On Stock at the factory	104.10
	<u>54,594.00</u>

GENERAL EXPENSES.

Potty expenses, Advertising, Printing, etc.	10,022.60
Allowances to Board of Directors	7,500.00
Salaries of staff at the office & engineers	25,752.05
Office Furnitures, Stationeries	2,077.45
Telegrams, & stamps	3,414.00
	<u>54,766.10</u>
	res 109,302.10

PRODUCTION of SALES.

Value of Stock unsold (cost price)	202,587.70
Goods forwarded to Hamburg	173,108.30
Less Amounts of sales	84,310.55
	<u>88,797.75</u>
to Antwerp	100,093.15
Less Sales	25,194.55
	<u>74,898.60</u>
to Genoa	61,173.90
Less Sales	16,575.00
	<u>44,598.90</u>
to Naples	28,651.80
Less Sales	5,702.25
	<u>19,349.55</u>
	<u>227,644.80</u>

PROFITS

Additional profits on sales independent of Stock

6,201.70
<u>34,942.90</u>
<u>41,144.60</u>

Total of losses

res 68,217.50

[ENCLOSURE]

[ENCLOSURE]

2

Dr. SOCIÉTÉ ÉLECTRIQUE EDISON

To Banque Centrale du Commerce		559,025 85
" Edison Machine Works		25,309 20
" Expenses of foundation		4,160 65
" Furnitures		2,802 15
" Bills		1,665 25
" Cash in hand		1,235 25
" Stock at Hamburg		1,091 25
" " " Antwerp		3,818 25
" Amounts owing to		77,858 20
Goods unsold		
Depot of Genoa	49,413 25	
" " Naples	22,041 25	
" " Hamburg	53,970 65	
" " Antwerp	45,904 55	
	Pes 171,329 50	
Orders executed & not invoiced	91,258 10	262,587 70
Balance		86,217 50
		Pes 1008,977 25

[ENCLOSURE]

Cr.

By Capital		1000,000.00
Amounts owing by		
Schoeneman	300.00	
Sauter Lemmonier & Co.	4.50	
S. Seubel Ingenieur	1,397.70	
E. Deseleé	22.50	
Sté. Comale. & Indle. Edison	582.40	
" " " " " Stock	273.10	
Chs. Plach Engineer	25.40	
J. Ilatky Po.	221.05	
	-----	2,027.25
Allowance to the Board of Directors		5,550.00

	for	1000,377.25

GENERAL STATEMENT OF A/C'S TO JUNE 30 1882.EXPENSES.

Loss Edison Syndicate	88,540.20	
No Exhibition Expenses	5,150.10	93,702.30
<u>GENERAL EXPENSES.</u>		
Petty Expenses, Advertising, Printings, Stationeries etc.	15,390.00	
Allowance to the Board of Directors to June 30 '02	7,500.00	
Salaries	14,628.40	
Stationeries, & Office furnitures	1,983.55	
Telegrams, & Stamps	2,957.00	
	=====	42,490.15
<u>PATENTS</u>		
Commission to Mr. Kleesst	500.00	
Travelling Expenses	8,490.75	
Duty on Subscribed capital to March 31.	73.00	
Income Tax	170.00	
Rent	1,555.55	
Expenses on goods sent to Antwerp	3,236.20	
Solicitors fees	6,321.40	
Expenses for lighting up the Conseil Municipal	2,935.25	
	=====	20,293.35
Total francs		175,254.35

*The Edison Electric Light Company
of Europe Limited*

65 Fifth Avenue, New York August 14th, 1888.

Thomas A. Edison, Esq.

Menlo Park, N. J.

Dear Sir:-

Mr Bailey has arrived and a meeting to discuss matters connected with the European Company will be held at No. 65 Fifth Avenue Wednesday afternoon at three o'clock. Several things of importance are to be talked over and it is hoped that you will not fail to attend.

Very truly yours,

S. B. Eaton

Second Vice President.

Per Mc.G.

*The Edison Electric Light Company
of Europe Limited*

65 Fifth Avenue, New York, August 21st. 1888

Dear Sir:-

A special meeting of the Directors of the Edison Electric Light Co. of Europe, Limited, will be held at No. 65 Fifth Ave. New York City, tomorrow, August 22nd. 1882, at one o'clock P.M. for the following purposes, viz:

- I. To receive the report of Mr. J. F. Bailey.
2. To discuss the contract between this Company and Messrs. Puskas and Bailey.
3. To determine upon the compensation to be given to the Second Vice President.

Yours truly,

S. B. Eaton.

2nd Vice Pres.

per W.H.M.

*The Edison Electric Light Company
of Europe Limited*

File

65 Fifth Avenue New York August 23rd. 1882

Dear Sir:-

The adjourned special meeting of the Directors of the Edison Electric Light Company of Europe, Limited, will be held at the office of Messrs. R. L. Cutting Jr, & Co. 19 William St. New York City, on Friday, the 25th. inst. at one o'clock P. M.

Yours truly,

J. B. Eaton

Second Vice President.

P. S. I have decided to print Mr. Bailey's Report and am having it set up in type as fast as he gives it to me.

J. B. E.

REPORT
OF
MESSRS. PUSKAS AND BAILEY
TO
The Edison Electric Light Company
of Europe, Limited;

MADE AT NEW YORK CITY,

AUGUST 25th, 1882.

NEW YORK:
C. G. BURGONNE, PRINTER, 29 ROSE STREET.
1882.

New York, August 25, 1882.

TO THE DIRECTORS OF THE EDISON ELECTRIC
LIGHT CO. OF EUROPE, LIMITED,
65 FIFTH AVENUE, NEW YORK CITY.

GENTLEMEN :

We beg to present to you the following summary of the operations of the three French Companies: the *Compagnie Continentale Edison*; the *Société Electrique Edison*; and the *Société Industrielle et Commerciale Edison*. These three companies were duly constituted at Paris, France, the 17th February last, in accordance with the terms of the contract signed Nov. 15, 1881, with MM. Charles Porges and Elie Léon, representing a syndicate of French and other Bankers of the Continent of Europe.

Among the principal shareholders of the companies formed in pursuance of this contract we name the Bank de Paris, the Bank d'Escompte, Messrs. Drexel, Harjes & Co., the Franco-Egyptian Bank, the Bank Central, the Bank of Constantinople, Messrs. Sterne Bros., of Paris and of Frankfurt; Messrs. Kohn, Reinach & Co., Messrs. Goldsmith &

Rau, the house of Ladenburg, of Frankfort, Messrs. Speyer Brothers, and M. Jonbert.

For the information of the stockholders it may be well to state that the *Compagnie Continentale* became, by the contract of November 15, the owner of the Edison patents for the countries of France, Belgium, Germany, Denmark, Russia, Austria, Hungary, Italy and Spain, and charges itself with the sale of licenses in all these countries, and with the formation of companies, local or national.

The *Société Electrique* occupies itself, under a license held from the *Continentale*, with the isolated plant business, exclusively, in the same countries.

The *Société Industrielle* holds a license for manufacturing for France, and sells on the continent elsewhere where the local manufactories cannot meet the demands.

The operations of the *Continentale* and the *Electrique* are so intimately associated that they will be referred to without distinction in this report. Each of these companies is organized with a capital of one million of francs, and the *Industrielle* with a capital of one and a half million of francs, making a total capital of three and a half millions of francs.

The capital of all these companies was fully paid up at their constitution. The shareholders being for the most part banks, bankers and capitalists, the shares are held firmly and the increase of the capital of any one of the companies, according to the needs of the business, is assured without recourse to the public.

The following report presents, then, a summary of the operations of these companies for precisely six months, the period of their existence.

During this time contracts have been made with syndicates, on conditions hereinafter stated, for the countries of Germany and Italy. Also for Holland, where the Edison Company has no patents, for the reason that the government grants none. In the other countries where you hold patents business has been commenced under the most favorable circumstances, as will be seen by the following *résumé*:

GERMAN CONTRACT.

For temporary purposes, a Promoters' or Syndicate Company has been formed in Germany, holding the option till the 1st March next to constitute a manufacturing and small plants company combined, and a company for central stations. This contract is made with Messrs. Jacob Landau & Co., and the German National Bank of Berlin and Messrs. Sulzbach Bros. of Frankfort-on-Main. The capital of this provisional company or syndicate is 225,000 marks, all paid up.

This Promoters' Syndicate not only does the isolated business until the end of February; but they also take charge of whatever central station business may be commenced before that date.

As regards the central station business in Germany, after the first of March next, provided the proposed company should then be formed for man-

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ufacturing and isolated business, a syndicate of bankers, with a capital of 2,000,000 marks, will take charge of it under the following conditions:

First. The Syndicate will act as the agent of the *Compagnie Continentale* for the establishment of central station lighting in Germany. It can establish central stations either with its own capital or otherwise, but in either case the *Compagnie Continentale* receives fifteen per cent. of the stock of the local company fully paid, and the same proportion in all increases during a period not exceeding twenty years.

The *Compagnie Continentale* receives also a royalty of forty centimes (eight cents) per lamp.

In several cities in Germany the cities themselves own the gas works, and it is probable that in these cases the central station lighting will be done by the city itself, in which case either a contract would be made by the syndicate for the establishment of the central station at a fixed price, or the material would be furnished to the city by competitive bids. In either of these two last cases the syndicate would buy the plant from the German manufacturing company, and the profit of the operations would be divided in the proportion of eighty per cent. to the *Compagnie Continentale* and twenty per cent. to the syndicate.

The *Compagnie Continentale* is protected by holding the right of veto on all such business. The profits will depend on the ordinary conditions of cheapness of production and of competition, and, of course, no definite calculation of the percentages

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of profit can be made in advance. But in all cases the *Compagnie Continentale*, as owner of a quarter interest in the factory, will realize a profit on these installations.

In Germany the manufacturing and the isolated business will be consolidated into one company. This Company, as well as the syndicate for central stations will be for the whole Empire, with the exception of Alsace and Lorraine. It has two head-quarter offices, one at Berlin and one at Frankfort, and duplicate contracts were executed at both places with the same parties. It will have a capital of 2,000,000 of marks, one-half of which will be paid in when the company is formed. One-quarter of the entire capital of this company is to be given to the *Compagnie Continentale* in fully paid up shares, and the same proportion is to be given in all augmentations during a period of twenty years.

The capital of this company, with that engaged to be furnished by the Syndicate for central stations, makes a total capital of 4,000,000 marks, for the commencement of exploitation in Germany.

The German Promoters' Company has done the following business since its constitution:

A plant of four K dynamos and about eight hundred A lamps is now being installed in the Munich Exposition which opens in October. Especial attention will be paid at this Exposition to electric lighting and the use of electricity for power, and accurate tests will be made regarding the efficiency of competing systems. The lighting

by the Edison system will include a theatre, also a library and several other rooms. A current from two Edison dynamos will be sent through conductors two miles long.

There are four sixty-light plants installed in Berlin by the syndicate, with the condition of selling them or putting in larger plants if these give satisfaction.

These four installations are placed as follows: One in the brewery of Buzenstein, another in the printing establishment of Knolauch, one at the Union Club and another at the Club Reserve, the two principal clubs at Berlin. An installation has also been made at Pozneck in a mine, and an installation of 250 sixteen-candle lights has been constructed for in the piano factory of Ascherberg at Dresden.

About two months ago a Siemens plant was put in an insane asylum near Berlin and failed to give satisfaction. The superintendent required its removal, which was made after commencement of a suit. We are advised that the intention is to replace this by an Edison plant.

The *Société Electrique de Paris* has made a contract for the lighting on the first of October of certain workshops in the Imperial German navy yard at Dantzig with two sixty-light plants.

On the Wilhelmstrasse, a prominent street of Berlin, arrangements are now being made for starting a central station for lighting the street, several important residences, shops, restaurants, etc.

ITALIAN CONTRACT.

A syndicate has been formed having an option running till the 31st of December, 1888, for the formation of a definitive company. The syndicate has a capital of three millions of francs of which one-third has been paid up. Should the syndicate decide not to form a definitive company, provision is made for its liquidation, the *Compagnie Continentale* receiving 15% of the profits of the business done, whether in central stations or in small plants, and having the right to purchase, at a price to be fixed by expert appraisers, such plant as may have been installed by the syndicate. In this case the license of the patents reverts to the *Compagnie Continentale* without any proceeding, by the mere fact of the syndicate not using its right to form the definitive company.

If the definitive company is formed, it is to be formed with a capital sufficient for the adequate handling of the business. The compensation to be given by this company to the *Compagnie Continentale* for the Italian patents is as follows:

(a) Fifteen per cent. of the capital stock fully paid and of all increase on the same during twenty years.

(b) A royalty of six cents a lamp on all lamps both for central and isolated lighting.

(c) A tax or royalty of ten per cent. on the selling price of all material for isolated plants.

The present idea is that this proposed parent Italian company will carry on the three branches of

isolated, central station business and manufacturing. But if they elect to form a separate company for manufacturing, the *Compagnie Continentale* is to receive half the profits of the factory after the usual legal deductions. The least capital on which an Italian Company can be formed, with the idea of doing a central station business, will, in our opinion, be twenty-five millions of francs.

Our situation is a peculiarly favorable one in Italy. The signers of the contract are the Banca Générale of Rome and of Milan, the Credito Lombardo, the Banque de Milan, the Credito Italiano and Professor Colombo. Associated with them are several private bankers and large manufacturers of Italy; also the Bank of Rome and other important banking institutions. The Gas Company of Rome, whose president is also president of the Banca Générale, enters in the syndicate for a hundred thousand francs. This syndicate is so influential that it will be very difficult to form a combination in Italy against it.

The Edison affairs have been pushed with great energy. We lighted during the last opera season the foyer of La Scala Theatre during nearly two months, and the City Government gave us, at the close of the season, an official certificate of their entire satisfaction with the light. This plant, on the closing of the opera, was used for the lighting of the Café Biffi in the Galerie-Victor Emmanuel. Sixty-light plants have been placed in a large new mill at Bologna belonging to Pacifico Cavalleri & Co., and in two large cotton factories

near Milan, the one belonging to M. Ponti and the other to M. Crespi, two of the largest manufacturers in Italy. Another has been placed in the School of Arts at Rome by Prof. Mengarini. Eleven other sixty-light plants have been purchased by the Italian company, and they are in the course of installation at different points. An installation has just been made at the City of Udine, and the engagement has been made by the Italian syndicate for the lighting of the entire city.

M. Ponti has already decided to replace the sixty-light plant by one of 250 lights.

At Milan the syndicate has purchased a property in the centre of the city and within a very short distance of the La Scala Theatre and the Galerie Victor Emmanuel, at a cost of three hundred thousand francs. One of our engineers has been in Italy for some weeks past making plans for the central station. Three steam dynamos have been shipped from New York for the central station at Milan, and a fourth will be shipped during the coming month of September. Prof. Colombo is now in New York for the purpose of completing the order for the material necessary for the central station, and for studying the details of the New York station.

Since the arrival of Prof. Colombo in New York he has received a telegram stating that the City Government of Milan has conceded to the syndicate the right of way in the streets, and also the lighting of the stage of the La Scala Theatre, preparatory to lighting the whole theatre, requiring he-

tween three and four thousand lamps. The lighting of the stage alone will require fourteen hundred lamps. Engagements have already been made at Milan with subscribers for the number of thirty-seven hundred lamps for the first central station. The subscribers have engaged to pay the same prices that they have heretofore paid for gas.

AUSTRIA.

In Austria a contract has been made for the representation of the French companies by the Messieurs Brückner, Ross & Co., a highly respectable engineering and electrical firm of Vienna, until such time as a financial syndicate shall be constituted, or until a company shall be formed. Negotiations are in progress for the establishment of a central system at Vienna.

A contract was concluded about two months since for the lighting of the theatre of Brünn, in Moravia, the industrial centre of the Austrian Empire. Eight hundred sixteen-candle lamps will be required, which will be run by four K dynamos, already in the course of installation. This is a new theatre, owned by the city, and under the direction of the Municipal Council. The city pays us an annuity which is calculated, in fifteen years, to leave it the owner of the plant. A concession has been given our Company for the lighting of the City of Brünn, and preparations are now being made for lighting the parts nearest to the theatre.

In Vienna, Messrs. Brückner, Ross & Co. are now

making an installation of three Z plants in one of the principal restaurants of the city.

At Stary, the great Arms factory of Werdal has had one of our Z plants running during about three months. The putting in of a plant for the lighting of the entire works is now under consideration. This will require about 3,000 sixteen-candle lamps.

In addition to this we are now making an installation, at the chateau of Mr. Wornal, of a sixty-light plant which it is proposed, at the end of two months' trial, to replace by a plant of 150 lamps.

HUNGARY.

In Hungary a contract is made with Mr. Francis Puskas giving him the representation of our companies, with an option for the formation of a general company before the date of May 1st, 1883. He has lighted, during nearly three months, a considerable portion of the Ministry of Posts and Telegraphs at Budapest, and the Postmaster-General has given us a very flattering certificate as to the result of this lighting. A translation of this is now handed to Major Eaton. Mr. Puskas has also lighted one of the principal restaurants of Budapest, and has from the proprietor a certificate, herewith submitted, of the same character as the above. He is about closing a contract for the lighting of a large grain elevator requiring a plant of three hundred sixteen-candle lamps, and has under consideration the lighting of two theatres.

RUSSIA.

In Russia we have made two contracts for a representation by agents, the first with Mr. Notbeck, of St. Petersburg, the second with Mr. Bertrand. Mr. Notbeck has the entire northern and central part of Russia, including Finland. Mr. Bertrand has the ancient Poland, and two or three provinces of Southern Russia.

Mr. Notbeck has purchased from us 10 Z plants and four K plants, which have been placed in the great cotton works of Finlayson & Co., at Tammerfors, in Finland; in cafés and restaurants of St. Petersburg and Moscow, and also in an insurance office. He has placed one plant on a steamer running on the Volga, with the understanding that if satisfactory, the light will be put on all the ships of the line, numbering about forty. Three of the Z plants placed by Mr. Notbeck are now in the course of being replaced by K plants. He has also several propositions for the permanent lighting of certain streets and quarters and theatres of the cities of St. Petersburg and Moscow. Mr. Notbeck has from the *Compagnie Continentale* an option running till November for the constitution of a syndicate or of a company. The minimum capital of this syndicate is fixed at one million francs, and the option is conditioned upon the starting of a central station of not less than one thousand lights at St. Petersburg, to be completed before January first, 1883. This option will be

further extended to the month of July, 1883, on the condition that he establish one other central station in some prominent city of Russia.

Since writing the above, we have advice that the plant on the Volga steamer is working admirably; also, that the lighting of the *Arcadia* Theatre, at St. Petersburg, has created a great *furore*; the audience vociferating and demanding, in the absence of Mr. Edison, that his representative present himself on the stage.

ALSACE.

For Alsace a contract has been made with Messrs. Ungerer and Schulz as representatives and agents. Mr. Schulz is at present a controller of the German telegraphs, but is about resigning this situation to give himself fully to our affairs. These gentlemen are arranging for the starting of a central station at Strasbourg. They have also in hand the negotiation for the entire lighting of the new railway station at Strasbourg requiring two thousand sixteen-candle lamps. The first Z plant placed by us in Europe was put in this station and has been running since about the first of January. MM. Ungerer and Schulz are also negotiating for lighting the new University, requiring about the same number of lamps as the railway station.

Regarding the plant in the railway station, it has given very great satisfaction to the authorities.

A record of the lighting of the lamps shows that the guarantee of 800 hours as the average life of the

lamps has been considerably exceeded. The directors of the railway company have done us great service in replying to persons and city corporations who have addressed inquiries concerning their experience with the Edison Light. They have replied to such inquiries that "as to the character of the illumination it was perfectly satisfactory, and that careful tests made by them had demonstrated that the Edison Light can compete with gas in point of price."

LORRAINE.

In Lorraine, a contract has been made with MM. Hatry & Co. An installation has been made in the great porcelain factory of Sarreguimines. This is the largest fayonce factory in the world, employing between three and four thousand hands. Mr. Bachelier went personally to Sarreguimines to start up this plant, as it was regarded of special importance. The occasion of lighting it was made a public *fete* and was celebrated with bands of music and the general attendance of the people of the town. This plant has given great satisfaction, and we shall probably light the whole factory. Our engineers are now engaged in the preparation of the plans and estimates for the establishment of a central station in the City of Sarreguimines.

Regarding these two provinces of Alsace and Lorraine, they are excepted from the German contract, and will be kept separate from that affair, and treated by our own agents.

BELGIUM.

In Belgium, no contract has been made with financiers, and at present it is the intention to exploit it directly from Paris, through our own agents and through local companies.

The following plants have been placed in Belgium: At the Musée du Nord, in Brussels, a plant has been running during a period of three months past, and an estimate has been submitted for the lighting of the entire building by twelve hundred A lamps. The "Musée" consists of a covered passage with some twelve shops on the level of the street, a small theatre, several rooms for the exhibition of industrial processes, a café and restaurant on the floors above. It is a place of much resort, and this plant has attracted a good deal of attention.

For more than two months a negotiation has been pending with the Chamber of Deputies of Belgium, for the lighting of the Chamber, the committee rooms and the offices of the President and Vice-President, with the prospect of a favorable termination.

A proposition has been made to us to light the *Cercle Artistique*, the aristocratic club of the city, of which the King and the principal personages of Belgium are members and frequent attendants. Beside the club is a small theatre, requiring about five hundred lights. The conclusion of this affair has been deferred in order to see what the arrangements would be regarding a central station

in Brussels, not wishing to engage in too many enterprises for isolated plants.

Some two months ago interviews were had with the engineer and other authorities of the city, regarding the lighting of the Theatre de la Monnaie, and other theatres in the centre of the city. At the same time the subject of the general lighting of the city was discussed. Regarding the lighting of the theatres, we were invited at once to make propositions, the city being ready to enter into a contract conditioned on an experimental lighting during a period of two or three months, to satisfy the authorities that the Edison light was reliable, and that they were not exposed to the risk of being left in the dark at a given moment. This matter has been followed up until, at a recent meeting of our Board of Directors, it was voted to rent, with a contract for purchase, a spot of ground recommended for a central station, subject to examination and approval by Mr. Batchelor. The formal proposition was also made a month ago for the general lighting of the City of Brussels. The city owns its gas works. A cable has been received since our arrival in New York saying that the Brussels prospects are good. One 1,200 light dynamo, for the central station at Brussels, has already been shipped from New York.

On the occasion of the visit to Brussels above referred to, interviews were had with the mayor and the engineers of public works of the city of Antwerp. An English gas company holds a contract with the city of Antwerp, but this contract is exclusive

only with reference to the street lights. The authorities were unanimous and cordial in the expression of their wish that we would come to Antwerp. A formal proposition for the lighting of the French theatre, the principal theatre of the city, and also for the general lighting for private consumers is now under consideration.

A Z plant has lighted the City Hall at Antwerp for more than two months, and the Mayor has given us an official certificate of the satisfaction given by it. Other systems had been tried before the Edison, and had not succeeded.

At Antwerp the large sugar refinery of Gits and Soegers has been lighted during three months past, has given great satisfaction and will be retained. An engagement has been made to place a Z plant in the great cotton factory of Lys, the model cotton factory of Europe. The condition of this installation is that, if satisfactory, it will be replaced by a 2,400 light Edison plant.

There is another large factory in Belgium, with which a similar engagement has been made. In both these cases a certain sum covering the expenses of transportation and installation is paid, so that we only support the depreciation of the lamps, with the reasonable certainty of securing the lighting of the entire establishments. We invariably refuse to make experimental lighting without both compensation and serious business engagements, at the end of such lighting.

HOLLAND.

In Holland the European Company, as above stated, have no patents, as the Dutch government grants none. Some three or four months ago Mr. Krasnapolsky, a capitalist of Amsterdam, commenced a correspondence in regard to lighting a large café, restaurant, and summer and winter garden belonging to him in that city. This correspondence resulted in a proposition to organize a company for the exploitation of the Edison system in Holland. A visit was made to Amsterdam, and after some two weeks spent in negotiations an understanding was reached on the following basis: The *Compagnie Continentale* of Paris receives, first, fifteen per cent of the profits arising from all central station business after the deduction of five per cent. to be paid to the shareholders for actual capital employed. No other deduction of any character can be made before the fifteen per cent. stipulated is set apart. Secondly, it receives a royalty of twenty centimes (four cents) on each lamp employed in central stations. Thirdly, on the small plant business the *Société Electrique* of Paris receives fifteen per cent. on the entire invoice cost of all the material furnished for small plants. The Holland Company is obliged to buy from the French factory all its plant, both for central stations and for isolated installations, under a penalty of fifty per cent. of the face of all invoices bought elsewhere. And the French com-

panies bind themselves under a similar penalty to sell to no parties in Holland except to this company.

The promoters of this company and the persons directly concerned in its management are Mr. Krasnapolsky; Mr. Dirks, Engineer-in-Chief of Roads and Bridges; Mr. DeBorck, former Minister of War; Mr. De Bordes, the president of the principal commercial club of Amsterdam; Messrs. Wertheim Brothers, Bankers; and Mr. Huydecooper, with many influential associates.

The first plant was started at Mr. Krasnapolsky's place, about two months ago, and has given entire satisfaction. Three other Z plants have been ordered by the Netherlands Company.

They have also purchased the ground for a central station at Amsterdam, the plans for which are being made, and have ordered two steam dynamos, to be delivered in the month of October next. The central station would have been commenced at an earlier date, but there has been some difficulty in obtaining the right of way of the streets. The intention is to commence by lighting Mr. Krasnapolsky's place (requiring between six and seven hundred A lamps), the club of which Mr. de Bordes is president, and a considerable number of private houses, shops and restaurants in the neighborhood of the central station.

Arrangements are also making for the starting of a central station at Rotterdam. The Holland company is organized with a capital of twelve hundred thousand francs, which will be increased according to the demands of exploitation. The gentlemen

concerned in it possess the capital and the influence necessary for the widest extension that the business may take.

The formation of this company in Holland, where there are no patents, and in the face of the competition that was made, is, perhaps, one of the strongest testimonies that have been given in Europe to the value of the Edison system.

FRANCE.

Active exploitation in France was not commenced until the last month, owing to the fact that the French patent laws prohibit the introduction of patented articles manufactured outside of the country. The *Société Industrielle*, for manufacturing under the Edison patents, was constituted in the middle of February last. A fine property was purchased at Ivry, near Paris, by two of the stockholders of the Paris companies, Messrs. Léon and Rau, together with the *Société Industrielle*. A civil society was formed between these two gentlemen and the *Société Industrielle*, each one of the three parties contributing a third of the amount necessary for the purchase of the property, about seven hundred thousand francs. This property is leased to the *Société Industrielle* with the right of purchase at any time within five years, at an annual rental of forty thousand francs. By this arrangement the capital of the *Société Industrielle* has been reserved for the installation of machines for manufacturing.

Mr. Batchelor entered on the property purchased in the latter part of February, and gained full possession of the premises only on the first of the present month. But he has succeeded in this short time in making a complete installation for a lamp factory which now turns out 600 hundred lamps daily, and which can be readily increased to a capacity of seven or eight thousand per day. He has turned out up to the present time twenty-eight Z dynamos, and will be organized at the end of this month so as to furnish an average of two of these dynamos per day. He is making preparations for the manufacture of the steam dynamo and of the types intermediate between it and the Z machines. He employs at the present moment about three hundred men.

An installation of 60 lamps has been in the Prefecture of the Seine for three months past and has given entire satisfaction. This installation was imported from the United States, by special permission of the Minister of Commerce, not being put up for commercial purposes, but for study by the city authorities.

A contract has been made for putting in four or five hundred lamps at the magasin of the *Bon Marché* as an experimental test of the light. If the lighting is satisfactory the whole establishment will be lighted by the Edison system. There are five thousand jets of gas in the buildings. This installation is now being made, and the lighting is to continue not less than six months, and is paid for

at a price considerably in excess of the price paid for gas.

An installation of between two and three hundred lights is also being made in the station of the Western Railway at Paris with the purpose of enabling the company to decide as to the lighting of the entire station and the adoption of the system at its other stations.

During the time of the Exposition at Paris, the engineer of the Government Powder Works at St. Chamas visited our office and commenced a negotiation for an installation in this establishment. The matter was thoroughly considered by the Government Engineers, and was finally authorized by the Minister of War, and the contract entered into with the French companies some three months ago. This installation is now being made and is probably already lighted up. We consider this, in respect of its influence, perhaps the most important installation that has been made.

Negotiations have been going on with a company formed at Besançon, a city of about 120,000 inhabitants, during more than four months past. We have sent to Besançon three Z dynamos intended to light up a subterranean passage in the city, a street and several shops and private houses, as a demonstration to the inhabitants of what the Edison system is. A provisional contract was signed with the Besançon company three months ago, and an agreement was recently come to with the directors of the Besançon company as to the terms of a definitive contract. The terms agreed on

were twenty-five per cent. of the capital stock of the company, to be constituted with three millions of francs capital, and ten per cent. in all augmentations of the capital during twenty years, and a royalty of fifty centimes (ten cents) on each lamp employed.

Negotiations are pending for the formation of a company for the city of Dijon, and we have sent a Z dynamo for installation by the company. Advice received since the above was written say that the plant has been lighted and that it is an "immense success."

We have an important installation of upwards of 200 lamps at the Exposition of Bordeaux, now in progress, in which we light a gallery, music-stand, etc.

The Exposition at Bordeaux is an International Exposition of Wines, and draws a very great attendance from all over Europe. The Edison light holds the most prominent place at this Exposition.

The above *resumé* shows that since the organization of the companies, completed on the 17th of February last, a total of 75 Z or 60-light plants, 26 K plants of 250 sixteen candle lights each, and 30 E machines, have been bought by the French companies from the Edison factory in New York, and nearly one hundred of these plants are to-day in successful operation at the points of most importance in Russia, Italy, Austria, Hungary, Germany, Belgium and Holland. In addition to this we

have four steam dynamos now on their way to Europe for the establishment of central stations at Milan, in Italy, and in Brussels, in Belgium. Four more steam dynamos have been ordered from the New York factory for the central stations at Milan, Amsterdam, Berlin and Brussels. Contracts have been made with powerful financial organizations in Italy, Germany and Holland. Agencies have been established in all countries where you hold patents, as well as in Holland, where you have none, with the single exception of Spain. Important contracts are now in course of execution for the establishment of companies in France and Belgium, which give every reason to believe that within six months from this date the portion of the capital of the *Compagnie Continentale* which has been expended will be reimbursed, and large receipts will flow into its treasury for distribution to parties concerned.

In support of this statement, and to demonstrate that the "Edison Light" is a business and not an experiment or a mere speculation on the credulity of the public, we cite the fact that the balance sheet of the *Compagnie Continentale*, the 30th of June last, showed that of its capital only 175,254 francs had been expended up to that date, and, of this amount, 93,702 was expended for the Paris Exposition. The first central station business for a city of one hundred thousand inhabitants will reimburse all of the capital of the *Compagnie Continentale* expended, and leave a handsome dividend over.

The balance sheet of the *Société Electrique* shows that up to the 30th June last, only 68,217 francs of

its capital had been expended, and of this amount 48,823 francs was for its proportion of the Paris Exposition expenses.

The French companies have not found it necessary to do any lighting gratuitously, and have spent nothing for newspaper puffs. But they have put in, as above shown, a great number of important installations, *without a single failure*.

Every such installation has brought them important business, and the newspaper press has, in consequence, given, as a matter of public interest, a wide publicity to the legitimate and honest enterprises thus initiated.

While a good deal of financing has been done in Europe by infringers of the Edison patents, we are entirely safe in saying that in financial combinations, having for their object the establishment and exploitation of electric lighting, instead of the exploitation of the public on the various Stock Exchanges, the Edison system is so far in advance of all others that we have not as yet been made aware of the existence of any business competition.

You are aware that a seizure was made by us of the Maxim lamp at the Paris Exposition. Suit was commenced immediately on the seizure. Mr. Maxim, not being a resident of Paris, was entitled to several months for putting in an appearance. This suit has been pressed forward as fast as possible by the French companies, and has been set down for trial immediately after the summer vacation.

The most eminent experts and counsel in France and in several other countries on the Continent have

declared the claims of Mr. Edison to the incandescent lamp absolutely good against all pretenders.

If these opinions are, as we all believe, well founded, you have in the companies formed at Paris all the elements necessary for the assertion and enforcement of your rights, and for giving them their full value in the markets of Europe.

But we recall to you that the European Light Company not only holds the patents of Mr. Edison for his lamp, but also all the patents for his entire system of lighting, and that these patents are entirely alone in this field, no person even pretending to have a *system of lighting by incandescence*.

In conclusion, we beg to state that in our opinion the present situation of your affairs in Europe gives every reason for congratulation, both as to the conditions of the contract of Nov. 15, 1881, and as to the practical results that have been reached. The theory of that contract is that the Edison light is a success and will be able to hold the field as to the entire system of incandescent lighting that is to replace the present system of gas. In accordance with this theory the French companies have refused solicitations to go on to the Stock Exchange in London or elsewhere, and profit from the temporary excitement on the subject of electric lighting, believing that far larger returns were to be secured by having permanent interests in an honest exploitation, carried on by powerful groups of financiers in different countries.

The capital necessary for the effective exploitation of the Edison system in France and Belgium will be furnished by the French companies them-

selves as soon as the central station in New York shall have been lighted up, and the results of it can be made known in Europe. It is a matter of congratulation that our own companies are able to carry out all financial operations necessary in this direction without looking to any outside source for support, and we are able to assure you that they are fully disposed to do this as soon as the lighting of the New York station gives them the guarantee that they feel necessary for the more extended operations that are now to be followed out.

We have the honor to remain, gentlemen,
Your obedient servants,
PUSKAS & BAILEY.

city

Report

of

The Edison Electric
Light Company of
Europe, Limited

made

at New York City

August 25, 1882.

File

New York, August 20, 1882

To the Directors of the Edison Electric Light
Company of Europe, Limited.

Gentlemen,

We beg to present you the following statement of our action in Europe in the affairs of the company. In the month of January, 1881, we commenced talking with different financial persons at Paris with a view of interesting them in the Edison system of electric lighting. The idea that we endeavored to realize, and on which we counted for the acceptance of any contract we might propose to you, was the securing of the proper exhibition of the Edison light at the then coming Exposition of Electricity at Paris without engaging the company, except as to the City of Paris itself. We considered that, if the light should prove to be a success, it would be against its interest to part with the license of its patents for any consideration such as financiers would be disposed to give in advance of an efficient and conclusive demonstration.

A provisional contract, realizing the above idea, was finally made with a syndicate represented by Mr. Elis Leon, which we presented in New York for your approval in March, 1881. This contract, after long consideration, was accepted with certain modifications, and was returned to Paris for recussion by Mr. Leon and his associates.

The counter project of contract thus submitted by you was not found satisfactory by Mr. Leon, especially for the reason that it provided no security to him and his associates for the repayment of the money to be employed at the Exposition in case you

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should fail to make the business with them and for the further reason that the conditions under which the contract was to become binding on them expressed in your draft, by the words "if the light shall prove a success", were considered to be not clearly enough expressed.

Finding that it would be impossible to realize any contract under these circumstances, we proposed to make a second contract, having no relation to that proposed by the company, and which it was expressly engaged could not be brought into Court in the case of difficulty in connection with the contract executed with you. By the terms of this contract, entered into by us personally with M^r. Léon and his associates, we guaranteed, by a personal deposit of one thousand shares of the stock of the New York Company, the repayment of the 150,000 francs advanced for the Exposition, and also made a definition, which was satisfactory to them, of the conditions under which the syndicate should be held to the execution of its contract. On the execution of this personal contract with us they signed the contract with you.

It was very evident to us, on the spot at Paris, that if substantial results were to be gained from the Exposition, it was necessary that the Edison light should have a known office in the City of Paris, that the necessary publicity should be made and its interests looked after with the authorities of the Exposition.

It being impossible at that moment to fix any definite conditions on which this work should be done, or to arrange any compensation for the Paris contract, your president said to us that if we would do what was necessary in this direction he would engage

that we should be reimbursed our expenses and receive a suitable compensation.

At the same time a personal letter was given to us by Mr. Edison, addressed to M. Berger, the Commissaire Générale of the Exposition, accrediting Messrs. Parkes and Bailey as the general representatives of the Edison light in all matters relating to the Exposition, and Mr. Bachelor and Dr. Noyes as in charge of the machines and apparatus and of matters relating to its technical conduct.

We thereupon took offices at No. 33 Avenue de l'Opéra Paris, and commenced actively the organization for the Exposition. For the rent and the furnishing of these offices we expended the sum of about twenty five thousand francs.

The leading place in the official Catalogue of the Exposition was secured, and we expended about ten thousand francs for the various articles descriptive of the Edison system in that publication. We also put in hand, and had executed, complete sets of cuts representing all the parts of the system. Arrangements were made with the leading journals in Paris, also with Spanish, Italian and German journals, with journals published at Paris for circulation in the South American countries, and with the leading Electrical journals of England and France for the insertion of articles descriptive of the Edison system.

We call your attention especially to the articles in the Journal des Débats, Le Temps, the Figaro, the L'Illustration, and the Spanish Illustrated Journal.

As showing the interest excited by the Edison system among technical journals, we may mention that the Telegraph Journal of London and the Lumière Electrique of Paris, each published an entire number devoted to it.

This was not only done gratuitously, but in the case of the Lumiere Electrique a complete series of illustrative cuts was prepared at its own expense to accompany the article, which was signed by Comte du Honcel.

Our special efforts were directed to enlarging the interest of the savants who were drawn to Paris from the various countries of Europe by the Exposition, and this with much success, a result that could not have been attained but for the admirable exhibition made by Mr Edison and the excellent manner in which its technical details were managed by Mr Hatcher.

Our attention was also much occupied with the matters relating to the action of the different juries appointed to pass on the various exhibits.

We desire to mention here especially the assistance rendered in this matter by Mr G. P. Lowrey, who arrived in Paris very opportunely, devoted himself entirely to the Edison interests, and with a very marked influence on the excellent result attained.

At an early period after the opening of the Exposition, we commenced sounding various persons with reference to the constitution of a syndicate for the general presentation of the Edison system in all countries of Europe where you hold patents. Following out the idea that had guided in the negotiation of the Paris Syndicate contract, that the Edison system was destined to be a great success, and that the policy of the New York Company was to hold itself free from all engagements until a conclusive demonstration of the value of the system should have been made by the lighting of the central station at New York, we procured from Mr Leon the engagement of 250,000 francs, and from other friends

250,000 more, making a total of 500,000 francs to be employed in placing isolated plants in the leading cities of Europe before the first of January following the close of the Exposition. Our idea was, on the strength of these exhibitions, to negotiate independently with groups of financiers for each country.

We obtained the engagement of this sum for a commission of two and a half percent in the future business of the Edison Company, leaving you entirely free from all engagements as to the policy you would pursue, the terms you would make, and the parties with whom you would negotiate. We called this offer to you, but found that you were favorable to the immediate constitution of a syndicate, to whom you would give entire control of the exploitation of the Edison system in Europe.

We then proposed to Mr. Leon the formation of such a syndicate, and after the exchange of many cables with your president, we came to an accord with Mr. Leon and Mr. Porges, representing a large number of financial institutions and persons in Paris and elsewhere, on the basis of the contract that was signed November 15th, 1889.

At this moment you requested Mr. Lowrey, to act with us in the preparation of the contract with Messrs. Leon and Porges. At the earnest request of Mr. Washburn and ourselves, he consented. The practical working of the contract has shown that its provisions are so drawn that the guarantees of all privileges that are promised to the New York company in this contract are as nearly complete as is possible. This is due to the skillful and conscientious efforts of Mr. Lowrey.

The discussion came up at the moment of the

constitution of the French companies in the month of February last, as to the percentage to be allowed to directors; Statements regarding this matter have been forwarded to you without our knowledge on which you believed it suitable to concede to the directors of the French companies fifteen per cent. of the profits of the business, as compensation for their services. The contract of Nov. 15 says that "the usual percentage" shall be given to the directors, and it is true that this percentage varies from ten to as high as twenty five per cent. But in the case of the companies giving these heavy percentages to directors, there are always large capitals on which interest is paid, and legal reserves that are deducted from profits before the percentages to directors come off.

In the case of the French companies, on the contrary, the capital is very small, and in the "Continentale" and the "Electrique" all of the capital expended is to be reimbursed before anything can come to the New York Company. Under these circumstances it did not seem to us right that the fifteen per cent. should be allowed to the directors of the French companies, and after much discussion we succeeded in reducing the allowance to directors to eleven per cent, having advised you of our views as to the fifteen per cent, and received your authorization to oppose notwithstanding your previous tacit acceptance.

We have thus presented above a very brief statement of our relation to the European affairs of your Company, commencing with the month of January, 1887, and embracing the negotiation of the Paris Syndicate, the Electrical Exposition of Paris, the negotiation of the contract of November 15, 1887, and the constitution of the French companies of November 17,

1882. Herewith enclosed we submit to you also a summary statement of the operations of the French companies from February 17, 1882, to the present date. In these operations we have also, with Mr. Batchelor, borne an active and important part.

The interests and ideas of the New York company are represented in the Board of Directors of the principal company, the Compagnie Continentale, by Mr. Batchelor and ourselves, and in the Electric and the Industrielle by Mr. Batchelor and one of us. In the Industrielle Mr. Batchelor is the active director of all its operations; he is also the Chief Engineer of the Continentale and the Electric.

These two latter Companies were administered by a Committee of their Directors from February 17, until early in May, when their operations became so extended that a more centralized and efficient direction was found necessary. Messrs. Rau and Bailey were then named jointly as managing Directors of both companies.

Mr. Rau gave up his connection with the banking house of Goldsmith, Rau & Co., of Paris, to accept this position, which has no emoluments of consequence except a portion of the percentage given to the directors from the profits of the business. Mr. Rau being a large shareholder in the French Companies, also one of the three purchasers of the factory, his action affords a strong example of the faith felt in the Edison System by the gentlemen who have formed these Companies.

We desire now to call your attention to the various expenses and advances made by us in connection with the New York Company.

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The amount of 150,000 francs put up by the Paris Syndicate for the Electrical Exposition not being sufficient, and the New York Company having made no provision for the deficiency, we advanced the necessary amount. We did the same in the matter of the lighting of the foyer of the opera. The advances in these two cases amounted to more than twenty thousand francs.

As above stated, the expenses for rent and fitting up of offices at 33 Avenue de l'Opera were twenty five thousand francs. The sum of about forty thousand francs was expended for publicity.

The total of expenses and advances made, in connection with the offices at 33 Avenue de l'Opera, from the opening of the Exposition till the conclusion of the French Companies, was 136,262 francs.

We call your attention also to the fact that, since January, 1887, a considerable part of the time of Mr. Parkes, and the whole of Mr. Bailey's time, has been devoted to the affairs of the New York company, and that no reimbursement of expenses incurred or compensation for services rendered has ever been made.

Beside the sum above stated, to have been disbursed in connection with the Exposition, we have made large travelling, personal and incidental expenses during the last eighteen months, no part of which is embraced in the above total, and which aggregate fully as large an amount as the foregoing, making a total of money expended by us, of say 270,000 francs. In this total no charge is included for compensation.

At the time of the exchange of cables with your President in connection with the negotiations of the

contract of November 15, we were assured that a commission of five per cent. should be accorded to us, as compensation for what we had done in case the negotiations were realized. A contract to this effect was discussed with Mr. Pustas, during his visit to New York in the month of October last, but without coming to any conclusion.

We have not pressed the matter of the adjustment of our claims on your attention since that time, because it was not possible to come to New York, without neglecting the affairs of the Company, and because we had entire confidence that you would recognize suitably efforts and sacrifices made to advance its interests. We shall be gratified with your early action in this matter.

We have the honor to remain, gentlemen,
Your obedient servants,
Pustas & Bentley.

Agreement this day made between Theodore Puskas and composing the firm of Puskas and Bailey, Joshuah Franklin Bailey, Paris, France, parties of the first part, and the Edison Electric Light Company of Europe, Limited, herein called the "Company," party of the second part.

Whereas the said Puskas and Bailey have rendered services and made disbursements in the past and will render services in the future for which the Company is willing to compensate them, it is agreed as follows:

First. In consideration of the compensation herein-after referred to, Puskas and Bailey hereby release the Edison Electric Light Company of Europe, Limited, and Thomas A. Edison individually, from any and all claims and demands of every kind whatsoever from the beginning of the world until the present day.

Second. The said Puskas and Bailey hereby bind themselves jointly and severally to act as representatives of the said Company in Europe until the 15th. day of February 1885, and in the event of the death of either of the said Puskas and Bailey, the survivor is bound by this agreement. In connection with the service herein promised, namely, to act as said representative, interests to look after the and affairs of the said Company in Europe, the said Bailey hereby agrees to make the interests and affairs of the Company, and his charge of them as herein referred to, his leading and principal occupation. He hereby agrees to devote to them his entire time, if in his judgment it should be necessary, or otherwise in his best judgment. The said Puskas hereby agrees to devote so much of his time and attention to the affairs of the Company as may be necessary from time to time.

Third. Nothing herein contained shall prevent the said

Puskas and Bailey or either of them from occupying any position of trust or emolument in connection with any Company formed in the territory owned or controlled by the Edison Electric Light Company of Europe, Limited, for the purpose of exploiting the Edison system of electric light, heat and power. But in all such positions they shall regard and protect the interests of the said Company of the second part.

Fourth. The said Puskas and Bailey shall make regular monthly reports in writing to the office of the European Company in New York City, touching the developments of the business, or of touching contracts made or under discussion; and all other matters of interest to the Company. They shall also, so far as within them lies, obtain at stated periods not less frequently than every six months full statements of the financial condition of the Continental Company, the Industrielle Company, the Societe Electrique Edison, and of such other licensee companies as may seem to the said Puskas and Bailey important or such as may be required by the New York Company.

Fifth. Nothing herein contained shall authorize or warrant the said Puskas and Bailey to enter into any contracts, assume any obligations or contract any debts in behalf of the said Company. All expenses for travelling, rent, employees etc. shall be borne by themselves without any charge whatever being made against this Company. Nothing herein contained shall prevent the said Company from appointing any other or additional agent or agents to look after their affairs in the said territory.

Sixth. In consideration of the above release given by Puskas and Bailey and they hereby agree to give any other form of

release which may hereafter be demanded) to the said Company and the said Edison; also in consideration of their past services and in consideration of their future services ^{above} provided for, the Company hereby agree to transfer, assign and give to the said Puskas and Bailey five per cent of such founders shares as they may now receive from the Compagnie Continentale Edison of Paris for the Compagnie Continentale, the Societe Electrique and the Societe Industrielle and Commerciale, reference being had to the parts of founder now awaiting delivery at Paris to the Company, a reduction being first made of the amount of eight per cent in the Continentale, ten per cent in the Electrique and twelve and half per cent in the Industrielle, reference here being had to a certain commission to Messrs. Léon and Porges.

In Witness whereof the parties hereto have set their hands and seals at the City of New York this 28th. day of August, 1892.

Puskas and Bailey.

Theodore Puskas.

per J. F. Bailey.

J. F. Bailey.

The Edison Electric Light Co.

of Europe, Limited.

by S. B. Eaton,

Second Vice President.

*The Edison Electric Light Company
of Europe Limited*

65 Fifth Avenue, New York August 28th. 1888

T. A. Edison, Esq.

Menlo Park,

N. J.

Dear Sir:-

Mr. Batchelor in a letter to Major Eaton received this
of
day asks for the exact method of coating wires with zinc oxide.

Mr. Batchelor states that they are having their wire made in
Europe but that it is not such good work as that done in America.

Will you kindly send me the information asked for,
or tell me where I can obtain it, so that I can write Mr. Batchelor
with full particulars.

Yours truly,

W. H. Meadowcroft

*Answered
Aug 31 1888*

65 Fifth Avenue, N.Y.
August 28, 1882.

My dear Mr. Bunker:

At your request I state below what I think my compensation should be, namely, a commission of $2\frac{1}{2}$ per centum on gross receipts of the Edison Electric Light Company of Europe, Limited, (the New York Co.), with a guarantee that it shall not amount to less than \$3600 per annum from the beginning of my services as Second Vice President, it being agreed that I may draw from the treasury of the Co. from time to time, as money can be spared, at the rate of the said \$3600 a year, no matter whether my commissions amount to that or not.

Sincerely yours,
L. O. Eaton.

*The Edison Electric Light Company
of Europe Limited*

65 Fifth Avenue, New York, Sept. 1st. 1882.

T. A. Edison, Esq.
Menlo Park,
N. J.

Dear Sir:-

I finished the preparation of our bills against the Paris Company last week by the insertion of your account.

Mr. Bailey said he wished to look over our bills when they were finished, and talk them over with me. He was to have taken this matter up early in the week but owing to the pressure of business ^{his} we only took them up yesterday afternoon. Mr. Bailey says in the bill will be criticised in Paris on several points, one of which is the number of dynamos sent to the Exposition, and another the discrepancy in prices of such dynamos. For instance, there appears in our account a bill paid by us to the Edison Machine Works for one "A" dynamo \$ 1182. 35 ; then there appears in your account under date of July 7th. 1881 the item " dynamo sent to Paris \$550. ; then the Edison Electric Light Company has rendered a bill for 8 dynamos for "A" lamps and one dynamo for "B" lamps, for which they charged us \$350. each. Can you give me any explanation of this so that I can explain to Mr. Bailey. Another criticism Mr. Bailey makes is in regard to your account.

He says he does not understand why the charges should be made for material and labor for the dynamo, when you make a separate charge for the dynamo itself. I suppose at this late day it will be scarcely possible to enter into any very full explanations of the items of your bill, but if you will kindly instruct me what to say to Mr. Bailey in regard to these criticisms I shall be much obliged.

Mr. Bailey in looking over the bill also said that some of the things charged in Bergmann's bill such as Galvanometers, Galvanometer scales, mahogany tables and a few other articles of that nature were sent to London to be used at the Crystal Palace Exposition, and that if that is so the Paris Company ought not to be charged with them. Do you know how far this assertion is correct, if so will you kindly inform me. In as much as I shall have to make some alterations, and have the bill recopied, I shall be greatly obliged if you will reply to this at your earliest convenience, so that I may complete the whole matter while Mr. Bailey is in this country.

It occurs to me to mention a circumstance which happened in Russia lately, and which I got from Mr. Bailey. It seems that they are lighting up a Theatre there, and the first night when the lights were being used, the audience called for

Mr. Edison to appear upon the stage, and Mr. Edison not appearing they called for his representative. It seems however, that Mr. Edison's representative on that occasion was a very modest man, and had not the cheek to appear, and, being called, disappeared from the scene as fast as his legs would carry him. Mr. Bailey may have mentioned this fact to you, so, if he has, this will be but stale news.

Yours truly,

W. H. Allee

Menlo Park, N. J. Sept. 1st, 1882.

J. P. Bailey, Esq.

Dear Sir:-

Referring to the bill rendered for materials and labor in connection with the Electric Light Exhibition at Paris, I desire to call your attention to the amounts charged for materials and labor done at Menlo Park, covering a period from the 21st of May 1881, to the 17th of November. These disbursements have been entered on the account at their actual cost to me. They comprise various materials, and the weekly disbursements made to my men for labor connected with the assembling and fitting up of all the various parts of the different apparatus. It is quite impracticable to enter into all the details of this work, but the distribution of the amounts was very carefully made, at the time, and I can assure you that nothing enters into this account but what is properly chargeable to the electric lighting apparatus which was sent to Paris.

My books show a very large disbursement for the same sort of expenditures in connection with other electrical apparatus exhibited by me at Paris, not, however, connected with the electric light.

In respect to the big dynamo, I desire to say that the total cost of this machine was very largely in excess of the price

charged in this account, in addition to the amount there named, the American Company contributed the sum of \$8,514.38 towards the cost, while I, myself, have expended \$4,950. additional thereon, so that the total cost of the machine was about \$28,000.

This excessive cost was occasioned principally by its being the first machine of the kind ever constructed, every part necessarily being made by hand, and in order to have it ready in time for the Exposition, a large portion of the labor was done at night at double wages.

Handwritten:
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P
C
E

Sept. 4th.

W. H. Meadowcroft, Esq.

Secretary, Edison Electric Light Company of Europe,

Dear Sir:-

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Referring to your favor of the 1st. Sept. I beg to state that the item of July 7th. 1881 in my account against your Company, "the dynamo sent to Paris \$550." refers to the bar armature machine built at Menlo Park. It is just possible that Col. Goddard may have charged your Company with this in the account he presented from the Edison Electric Light Company. If so please erase this item from my account, and advise me to that effect.

As to Mr. Bailey's criticism on the items for material and labor for the dynamo these charges are for some alterations made on the bar armature dynamo after it was built, and are properly chargeable to the European Company. If we entered it in our accounts by charging a higher price than \$550. for the dynamo, the prime cost of the machine would have appeared extremely heavy.

As to the instruments that were sent to London from Paris, that have been charged to the European Company, I think this is a matter that could be best settled by the rendering of a counter account, but if this course is pursued it will involve upon me the necessity of rendering a still further account for the same, inasmuch if we have them. They are now about to be shipped to Munich for exhibition there.

Sept. 18th.

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L. F. Bailey, Esq.

Dear Sir:-

Mr. Edison has rendered bills against this Company for disbursements on account of the Edison Electric Light exhibit at the Paris Exposition 1881, amounting to \$33,970.35; also a bill for the 1000-light dynamo, amounting to \$14,141.50; and a bill for the material used at the lighting of the Paris Opera House, amounting to \$5,897.65; we also beg to hand you a bill rendered to us by the New York Edison Electric Light Company for dynamos sent by them to the Paris Exposition, amounting to \$3,150.

We beg to hand you also herewith a copy of a letter received from Mr. Edison with his accounts, also copy of a letter received from the New York Edison Electric Light Company with their account before mentioned.

These bills represent an actual outlay of cash which this Company will have to pay, and we hand them to you with a request that you will obtain from the Paris Companies the amount of the balance due on such bills as will be hereafter stated.

You are aware that a contract was entered into between Mr. Elie Leon and this Company in the early part of last year where-

by Mr. Leon was to furnish this company with 150,000 francs to make an exhibition of the Edison light at the Paris Exposition last year. We acknowledge to have received all of this 150,000 francs, for which we are willing to allow the sum of \$50,000 on account of the statements handed you herewith. The balance due, therefore, will appear as follows:

Exposition account.	\$13,970.35
Opera House account.	5,897.05
1000 Light cylinder acc't.	14,141.30
Edison Electric Light Co.	<u>3,190.00</u>
Total disbursements.	\$37,199.30
Received from Mr. Ellis Leon 150,000 francs.	\$50,000.00
Balance now due.	<u>\$12,800.70</u>

You will observe that in the Exposition account the expenses of Mr. Batchelor are charged, but this is balanced by the above credit of cash received from Mr. Leon.

We regret that there has been so much delay in rendering these final accounts, but the delay has been occasioned by the fact that they have only just been rendered by Mr. Edison to us.

As we are awaiting settlement of this balance in order to pay Mr. Edison the amount still due him on account of his ex-

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The Edison Electric Light Co. of Europe, Ltd.
London, E.C. 4, England
Attention of the Secretary
For Mr. H. H. H. H. H.

penditures, we beg you will represent to the Paris Company the importance of prompt remittance.

You might call their attention to the fact that the whole of the plant for which these expenditures were made has passed into their custody and when this balance is paid will become their property.

Yours very truly,

The Edison Electric Light Co. of Europe, Ltd.
by W^m H. McCosgrove
Secretary

The Edison Electric Light Company
of Europe Limited

65 Fifth Avenue, New York, Sept 28th 1882

Thomas A. Edison, Esq
65 Fifth Avenue, N. Y.

Dear Sir,

In accordance with your request, I beg to
hand you copies of the following documents, for your
office files, viz:

- (1) Agreement between T. A. Edison, Theodore Puskas and J. C.
Bailey and James H. Baulew, dated May 2, 1879;
- (2) Agreement between T. A. Edison, Theodore Puskas, Joshua D.
Bailey and James H. Baulew and The Edison Electric Light Co
of Europe, Limited, dated April 1, 1881;
- (3) Agreement between T. A. Edison and the Edison Electric
Light Co. of Europe, Limited, dated May 3, 1881;
- (4) Agreement between same parties, dated June 14, 1881; and
- (5) Copy of the accounts for disbursements at Paris Exposition
of 1881, at the Paris Opera House and on account of the big
dynamo, as such accounts were rendered to the Paris Companies.

Yours truly

Wm. H. Laddowoff
Secy.

[ENCLOSURE]

Copies of ⁴Accounts rendered
to Mr. J. F. Bailey by
the Edison Electric Light
Company of Europe, Limited,
to be presented to the Paris
Company.

September 11th 1882

The Edison Electric Light Co. of Europe, Limited,
 to
 Thomas A. Edison, D.

Disbursements on account of the Edison Electric
 Light Exhibit at the Paris Exposition, 1881.

1881.

June 11	150. R. P. Babcock & Wilcox, boiler with engine and blower	3740.00
April, May,	Bill of Edison Lamp Co. for pay roll and material for Paris exhibit,	327 10
June, July	Bill of Edison Lamp Co. for lamps for exhibits	1525 75
" "	" " " " bamboo strips.	76 00
July 15	Edison Machine Works for re-winding cords, over line of Dynamos.	
	1564 lbs tungsten wire at 35¢	6528
	270 hours labor " 40¢	108.00
	Boxing (extra heavy)	10.00
	2 cartages	6.00
		19428
July 20	Edison Machine Works for following materials, viz, for Exposition	
	30 Resistans boxes at \$1.00	46.00
Aug. 19	1 " " " "	1.00
	12 extra brushes " 50¢	6.00
" 30	3 bundles 4/100 wire	26.00
	2 lbs. Japan " 1.00	2.00
	12 extra brushes " 50¢	6.00
	100 sheets paraffin " "	100.00

1531.

Forward

7350.26

50 2 Lt. bhandelurs - Brass	7.00, 375.00
50 2 " " Iron	11.00, 317.50
50 Single " "	1.00, 50.00
25 Double Swing Ratchets, Brass	3.00, 75.00
25 " " " Iron	2.30, 57.75
25 Single " "	1.65, 41.25
25 " " " Brass	2.25, 56.25
100 Rigid brackets	1.00, 100.00
100 " " " Iron	.75, 75.00
1000 Lamp shades	25.00, 250.00
1050 Shade holders	25.00, 250.00
1250 sockets - no coils	40.00, 500.00
350 " with "	75.00, 262.50
509 Ceiling "cut off" painted	23.00, 114.62
250 Wall " "	25.00, 50.00
12 Hand-lamp stands	12.50, 150.00
25 Single switches	2.00, 50.00
15 3-Break " "	4.00, 60.00
1 set Scales	46.00
1 Dynamometer	70.00
2 Sp. Galvanometers	26.00, 52.00
2 Res. Regulators 30 ohm spool	17.00, 34.00
1 Res. Commutator	48.00
30 Standard Batteries	12.50, 375.00
30 small Calorimeters	2.25, 67.50
6 Galvanometer scales	5.50, 33.00
11 Multiplying tables	40.00, 440.00
1 large " " "	46.00

Forward

7350.26

1857.

Forward

7050.26

1000 "cut off" plugs	27 25.00
100 vertical post-offer painted	27 22.00
1 Double Switch for test table	1.50
1 Large Dynamic switch	26.00
1 50,000 ohm Res. Spool in Res	24.00
1 - 1000 " "	7.25
1 - 5 " " with plugs	5.75
1 large Bradley galvanometer	17.60
2 small " "	20.00
300 5 ft. 1/2 in. iron pipe for test table	107 75.00
300 - 6 ft. 1/2 " " " " " "	52 35.00
300 8 ft. 1/2 " " " " " "	17 55.00
500 couplings	7 65.00
275 insulators	12 44.25
1 Revolution Counter	6.00
1 Dialer Indicator with 1/4 in sponge	97.00
2 lbs of lead wire	36. 70
hardware and 1/4 in sponge	26.00
Insulator packing	40.00
Packing boxes	75.00
help in packing and loading	58.00
2 - 6 in. Vases & shapes	200. 700
2 rigid brackets for Res. lamps	4.00 5.00
30 lbs gas fittings	6. 43.00
Delivery and postage. car fare	4.00
12 1/2 hrs on lamp stand	6.25
5 Hhds for lamp shades	7 1/2 4.00
3 1/2 hrs on small meter	10 7 1/2

Forward

7350.26

1851Forward

7250.28

Material used 26.00

72 lbs on beam meter 26.00

7250.28

Aug. 10

Bergmann & Co. bill for following

material and labor for of iron

222 Wall studs 30.00

1 trucking dynamite 6.00

17 1 electric meter 118.00

Iron and materials on beam

meter 24.00

Case for beam meter 6.00

Boxing and packing 22.00

220.00

Johnson Electric Illuminating Co.

bill for following

material for hypsometer.

2000 brass " 08 20.00

11 soldering irons " 1.75⁴ 700

20 lbs solder " 15 3.00

15 Gunite " 1.11 21211

50 lbs staples " 15 7.50

30 Gross screws " 65 6.50

2 Ins. job " 1.450 9.00

281 Electric wires " 07 20.50

29 2222 lbs cone " 27 577.28

70434

Johnson Electric Light Co.

Bill for following material and

labor for hypsometer

Aug 7

Assistance bot and communication 6.00

Work on Jan meter 22.20

42.20

Forward.

714.487.54

B.L.

Forward

/ 1448921

July 11

D. de Carville, bill for photographs

135.00

Expenses of Charles Batteux
at Paris Exposition paid by Ed. Leon
as per statement rendered at Paris.

Fr. 41,730.00

which at 1875 would be \$8067.87

When expenses of old Batteux at Exposition
not paid by Ed. Leon and for which
he drew on old Edison in New York

Fr. 17,206.00 which at 1875 would be \$3519.63 11527.50

The work at -Monte Park-

for Paris Exposition

May 21	2	Sheet Rubber	1.511
"	23	Composition Pistils	37.50
"	26	Boxes for instruments	7.80
"	26	Pay Roll	6.59
June 1		Card Board	37
"	2	Pay Roll	1,253
"	9	"	1,207
"	4	Boxes	1.00
"	9	Shinking	11.00
"	10	Cashings	103
"	10	Boxes	1.50
"	11	Shalena	1.76
"	16	Pay Roll	1,727
"	10	Carbon Strips	148
"	16	Cartage on Coal	328

Forward.

/ 5679122030.00

		<u>Forward</u>	
16	to	Cartage on Coal	5.16
15		Packings	1.51
17		Freight	1.77
18		Ropes	4.88
15		Freight on Coal	11.77
17		Hardware sundries	2.16
18		Rope in Newark.	.38
18		Irish clay	.48
22		Hypanose - hypanose.	.35
21		Glass jars.	2.00
20		Chemicals	13.75
20		Mirrors	15.00
22		Hardware	3.24
23		Cartage on Coal	7.00
23		" " "	2.00
23		Dry Roll	7.28
23		Hardware	9.68
24		Charcoal	2.00
24		Freight on Charcoal	.35
27		Hypanose in N. Y.	.35
27		Hypanose wire	10.93
28		Freight	80
22		Hardware	1.34
28		Freight	43
27		Hardware	47
28		Hypanose wire	265
28		Freight	70
29		Small wire.	104
			<u>104</u>
			186.167.86

<u>1881.</u>	<u>Overhead.</u>	<u>\$ 100.00</u>
Jan 19 to Telegrams		372
" 25 " Boxes		2600
" 28 " Soft Coal		655
" 29 " Paper scales		255
" 29 " Freight		800
" 11 " Exp. men in st. Y.		4600
" 18 " Cash		33.50
" 19 " Backings		270
" 30 " Freight		50
" 30 " "		74
" 30 " Hardware		50
" 29 " Hard Coal		35.37
" 30 " Key Roll		123.26
" 30 " Printing		497
" 30 " Carriage Freight		50
July 2 " Exp. st. B. and new st. Y.		50.00
" 2 " Telegrams		25
" 5 " Exp. in st. Y.		25
" 6 " Paper and Exp. in st. Y.		140
" 7 " Iron wrench and exp.		65
" 8 " Fare and exp. in st. Y.		1.00
" 7 " Freight		50
" 7 " bly. on freight		75
" 7 " Key Roll		1146
" 7 " " " on Syracuse.		1027
" 8 " Freight		50
" 8 " Freight		155
" 10 " Fare and exp. in st. Y.		1.00
	<u>Balance</u>	<u>1096.75</u>
		<u>\$ 1096.75</u>

<u>Ass.</u>	<u>Forward</u>	<u>1891-92 Feb 1891</u>
July 26	Allen discharged	28.75
" "	" Glass work and sundries	21.25
" "	" Hardware	20.75
" "	" "	2.25
" 31	" Pay Roll	117.00
" 31	" " " in Dynamite	10.75
" 9	" Drafting for Dynamite	29.25
" 13	" Coalings	12.90
" 15	" Rases	30.00
" 14	" Exp. to Newark	1.00
" 18	" " " in N. Y.	.45
" 18	" Cash, men discharged	1.75
" 16	" Hardware	2.16
" 17	" Freight	11
" 18	" Glass jars	24.25
" 17	" Exp. in N. Y.	1.00
" 18	" Exp. " " "	1.00
" 14 & 16	" Bachelor and men in them	20.00
	York.	2.00
" 18	" Hardware	6.00
" 22	" Allen discharged	35.00
" 19	" Pay roll	1.50
" 13	" Carbons	4.00
" 20	" Allen discharged	5.00
" 28	" Exp. in N. Y.	1.00
" 27	" Allen discharged	10.75
" 28	" Pay roll	5.00
" 28	" Carbons, Ague. Col.	

Forward ~~1891-92 Feb 1891~~

		<u>Receipt</u>	
July 21	2 cartage, Curacao		50
July 21	1.000 dis. charged		1.00
	1.000 shipping		29.50
	2.000 glass jars		1.25
	3.000 Freight		17.00
	4.000 Pay Roll		63.27
	4.000 Exp. in N.Y.		1.45
	4.000 Salaries		24.00
	4.000 Hon for Expenses, - ship		3.75
	4.000 cartage		10.00
	5.000 Groceries		7.50
	11.000 Pay Roll		63.39
	11.000 Freight		.25
	12.000 Carbon sticks		.60
	16.000 Glass etc. Lump Sum		10.29
	16.000 Pay Roll		52.75
	25.000 " "		62.76
	27.000 Carbon sticks		.60
	27.000 Freight on goods at Curao		17.07
July 1	1.000 Pay Roll		35.60
	1.000 Carbon sticks		1.60
	7.000 Ins and Exp. N.Y.		1.25
	8.000 Pay Roll		40.25
	10.000 " "		24.29
	10.000 Cartage - Curacao		2.00
July 22	1.000 Pay Roll		32.95
29	" " "		32.60
Oct 3	1.000 Ins and Exp. N.Y.		1.00
	<u>Forward.</u>		<u>2107.30/28.061.56</u>

<u>#1.</u>	<u>Forward</u>	
Feb 6 to 1	Pay Roll	2407.50/26.16.11.11
" 13 . . .	"	7.71
" 20 . . .	"	17.00
" 27 . . .	"	87.50
" . . .	Truck for Synasco.	12.00
Mar 3 . . .	Pay Roll	41.00
" 10 . . .	"	12.00
" 17 . . .	"	12.00
		<u>2527.50</u>

	<u>Table Up - Paris Exposition</u>	
March 20 to 27	Table to Tucker & Bailey	2.00
April 11 . . .	"	7.00
May 15 . . .	"	12.00
June 7 . . .	"	12.00
" 8 . . .	"	20.00
" 10 . . .	"	7.00
" 16 . . .	"	6.50
" 23 . . .	"	7.50
Aug 7 . . .	Table to Tucker & Bailey	21.00
" 23 . . .	" C. B. Batscher	11.00
" 24 . . .	"	51.00
" 30 . . .	"	22.00
Sept 8 . . .	" J. and B.	8.00
" 9 . . .	" C. B.	1.75
Oct 2 . . .	" C. S. Moses	17.75
Nov 7 . . .	" J. and B.	2.75
" 17 . . .	" C. B.	1.75
" 24 . . .	"	1.00
		<u>207.75</u>

Bill		Forward	
July 25	to hall to C. R.		107 77 10 20
" 25	" " " O. A. Allow.		2 00
Aug 8	" " " " " "		5 25
" 20	" " " C. Bachelor		5 00
Sept 20	" " " " " "		8 00
			<u>137 02</u>

Back Disbursements - Paris

Bill		by position	
May 25	to Comptroller of Patents		109 20
June 14	to Porter men's passage		10 00
" 22	to Passage to Paris Pt. de Calais		205 00
" 29	to Freight		70 52
July 6	to Passage, - Dover & St. P. Pt.		215 00
" 7	to Freight		25 40
" 16	" " "		56 22
" 21	to Johnson, Back salary		100 00
" "	to Freight		102 27
" "	to Passage Dunn's & Johnson		10 00
" 28	to Freight		70 52
Aug 2	" " "		70 77
" 8	" " "		31 70
" 16	" " "		65 50
" 20	" " "		51 25
Sept 7	" " "		100 50
" 16	to Framing Bantoo specimens		211 25
" 17	to Freight		10 00
" 21	" " "		14 77
" 24	to Lamp - J. Dargman & Co.		10 00
			<u>2270 77 20 48</u>
			<u>Forward</u>

The Edison Electric Light Company
of Europe, Limited

to _____ Dr.
Thomas A. Edison

Opera House Account.

811.

	For payments on this acct as follows:	
Sept 14	Edison Lamp Company for 1700 B Lamps at 33¢	575 00
" 19	Edison Electric Works for 7 "Z" Dynamoes @ \$550.	3850 00
	42 extra brushes @ 11.	462 00
	Boxing extra lamp (89 boxes)	63 00
	4 car tags.	20 00
	<u>Beigman & Co. for</u>	
Sept 20	375 trap seats without top @ 45¢	168 75
Oct 2	450 " " " " "	202 50
" 8	75 " " " " "	190 00
Oct. 7	1 Walnut Case	40
	Expenses	12 50
	Boxing, packing and car tags	11 00
Aug 20	<u>Edison Electric Illuminating Co.</u> of N.Y. for 1500% lbs of wire @ 30¢	450 00
		<u>1559 75</u>

The Edison Electric Light Company
of Europe, Limited

to
Thomas A. Edison

Dr.

Edison 1000 - Light Dynamo account.

£1.

Sept 2 Paid Edison Machine Works, bill as follows

For 1 Dynamo Machine - 1000 lights	12,000 00
" 1 Starter and blower.	115 00
" Box ing. (18 boxes)	246 00
" Carriage	120 00
" Making bed plate	25 00

Aug Paid Bill of Edison Electric Light Co.,
for as follows

For Engineer's services in connection
with specifications and alterations
in engine

150 00

" Draughtsman's time in designing,
sketching, tracing on mammoth
dynamo, - 219 1/2 days @ 50/-

1247 50

" 55 yards lining cloth

22 00

" 136 Blue prints at 1/-

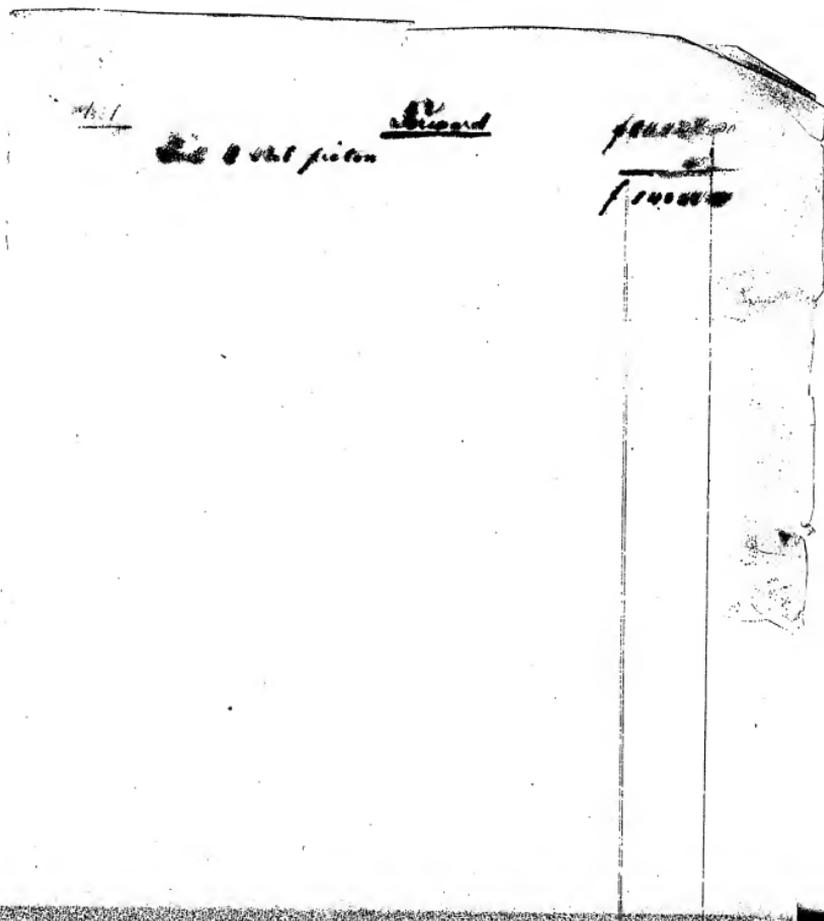
136 00

" Labor indicator and other springs

100 00

" 4 lbs scales.

~~Grand Total~~



*The Edison Electric Light Company,
of Europe Limited*

65 Fifth Avenue, New York Sept. 30th. 1882

File

Dear Sir:-

A special meeting of the Directors of the Edison Electric Light Co. of Europe, Limited, will be held at the office of Messrs. R. L. Cutting, Jr. & Co. 19 William Street, New York City, on Monday, October 2nd. 1882, at 3:30 o'clock, P.M. for the purpose of discussing and passing upon the proposed amendments to the Contract of November 15, 1881, between this Company and Messrs. Porges & Leon; also for the purpose of discussing a proposal to compensate Mr. Leon for surrendering his Contract for Paris, and suburbs.

Yours truly,



Second Vice President.

File

Mr. Edison,

Will you please have a copy made for me, for the files of the "European Co. of the Original Articles of Association of the three European Companies. You have a translation, but we have no copy of it in the office of the European Co. Will you kindly have a copy made, or, will you please send me your copy and I will have a copy made myself and return your copy to you.

*Copied from
L.P. West
measured & selected
during the
same*

G. Edison
per G.C.

Supt. Oct. 2nd. 1892.

Form No. 1

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assented to by the sender of the foregoing message. Errors can be corrected only by sending a message back to the sending station on completion, and the company will not hold itself liable for errors or omissions in transmission of delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, nor in any case where loss occurs in any proceeding in writing within any stage. This is UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NUMBER <i>62</i>	SENT BY <i>W</i>	REPT BY <i>W</i>	CHECK <i>77</i>
---------------------	---------------------	---------------------	--------------------

Received at **791 BROADWAY.**

Oct 3 1882

Wm. R. S.

To Mr. Shull

65 25th Ave

be sixty five about

two this afternoon dont fail

meet me

Barley

This telegram has just been received at the office in 791 BROADWAY, near South Street, where any reply should be sent.

DIRECT WIRE.

New York. Aug 14th 2.
Oct. 11th 82.

— Small Exp

Dear Sir

Will you have the goodness to forward
to me Mr. Bailey enclosed letter? I have asked Mr. Bailey
to make me a proposition in regard to salary, which no
doubt could be satisfactorily arranged, as I am wishing
to be back in Europe,

Any information you receive in respect of this
matter and acquaint me with, I should greatly esteem,
as a decision would enable me to make arrangements
which I have delayed in view of this matter

Yours truly
R. Summers.

P.S. Anything approximating \$2000. would be acceptable

Summers
Oct 11 82

*The Edison Electric Light Company
of Europe Limited*

67 Fifth Avenue New York, October 30th. 1882
RECEIVED.
OCT 30 1882
ANSWERED

.....88...
FILE No...4.....

Dear Sir:-

A special meeting of the Directors of the Edison Electric Light Company of Europe, Limited, will be held at the office of Messrs. R. L. Cutting Jr & Co., No. 19 William Street, New York City, to-morrow, October 31st, 1882, at 1 o'clock P. M. for the purpose of providing money to pay interest on Bonds due November 1st.

Yours truly,



Second Vice President.

The Edison Electric Light Company
of Europe Limited

65 Fifth Avenue, New York, Nov^r 2^d 1882

Messrs R. L. Cutting & Co

Gentlemen:

Enclosed please find the promissory note of this Company for \$800, payable thirty days after the 1st inst. to your order. This note is given as evidence of our indebtedness to you for the loan of \$800 made two days ago, and we have reserved Bonds of 194, 195, 196 and 197 to secure the same. Your name has not yet been filed in such Bonds, but should the enclosed note remain unpaid at maturity, the Bonds will be formally issued and handed to you as security. Is that satisfactory?

Very truly yours,


J. H. Edison
Second Vice President

[ENCLOSURE]

New York November 1st, 1882

Thirty days after date we promise to pay to
the order of, Messrs R. L. Cutting J. & Co. the sum
of Eight hundred dollars, with interest, for value
received.

paid
December 1st
The Edison Electric Light Co. of Europe,
Limited,

by

[Signature]
Second Vice President

\$ 800.⁰⁰

65 Fifth Avenue, N. Y.
November 21st, 1882.

My dear Mr. Parker:

Referring to my letter to you of August 28th, about my pay as officer of the European Co., I understand that the question has arisen what I mean by "gross receipts," upon which the commission of 2½ p.c. should be estimated. I mean cash, exclusive of cash contributed by our stockholders.

Possibly the Company might be given something else other than cash, - stock for instance. In that case, should it seem to me that I had an equity in the same, I would leave it to the directors to decide what, if anything, I were entitled to. Another question has arisen. Suppose a very large sum in cash were received, say a million, would I expect the commission on all? I reply, I would. However, if the Co. is not disposed to have me share thus in its possibly vast prosperity, I might be willing to have a maximum fixed, provided my arrangement with the Co. were made to extend over a series of years, say until January 1st, 1888, five years from next January. If you think a maximum should be named, under the above arrangement, please name it, and I will tell you at once whether I will accept it.

Sincerely yours,
L. B. Eaton.

Dec 2, 1882

J. W. Foots

acknowledging receipt
of check for \$603.4

59 WALL STREET
NEW YORK.

Receipt

Dec 2 1882

I have yours with charge
\$603— in payment of note of
Edwin Simpson Co which I
will forward you by mail when
I have time to get it out of my
box

Thanks

Wm. W. Weston

Wm. W. Weston

Mr. Edison,

Mr. Dyer wrote me a letter on December 8th. with reference to five cases for foreign patents which he specified in the matter. I brought the subject before the committee the next day, December 9th. They passed the enclosed resolutions.

S. B. Eaton

December 13th. 1882.

per Mc.G.

[ENCLOSURE]

RESOLVED. That, without referring in any way at this time to the question of legal obligation, it is the opinion of this Committee that Mr. Edison is under obligations to this Company of the highest nature which can bind a man, not to do anything in respect to any of his foreign patents which will shorten the life of the United States patents or otherwise prejudice them.

128
~~RESOLVED. That the Committee, appreciating the explanation which has been made by the President and feeling the strongest desire to facilitate the interest of Edison electric lighting in all parts of the world, are disposed under these special circumstances to take some risk, and accordingly hereby authorize the President to consent to having the English applications referred to in the above letter from Mr. Dyer go forward at the present time and to having the Continental applications properly filed subject to the proposed cable communications as to the date when they shall be filed in the proper public offices.~~

RESOLVED. That the President and Counsel of the Company be instructed in respect to these and all other patents to make special efforts to have issued United States Patents prior to the issue of any English patent or to the filing of any Continental patent, or at any rate to such action as will protect this Company from a loss in the full length of any of its patents.

RESOLVED. That the President is directed to make a secure proper arrangements or engagements for the taking out of the Continental and English patents above referred to for the longest term permitted by the laws of the country in which such patents are taken; it being understood that no patents shall be taken for less than fifteen years, except in the case of England, and there for not less than 14 years; and it being further understood that the authority conferred by those resolutions relates only to the specific patents mentioned in Mr. Dyer's letter.

The meeting then adjourned.

Mr. Edison,

Referring to our conversation this morning and my suggestions that you cable to Batchelor, will you please send the following cable to Batchelor at once at the expense of the European Company.

Ship founders next steamer sure.

S. B. Eaton,

December 30th. 1882.

per Mc.G.

[FROM CHARLES BATCHELOR]

Blank No. 2

207 N. W. **CABLE MESSAGE.** 1164 p.m.
THE WESTERN UNION TELEGRAPH COMPANY.

Ed. J. J. J. J.

Messages transmitted by this Company for transmission must be written on the Message Book provided by this Company for that purpose, under and subject to the conditions printed thereon, and on the back thereof, which conditions have been agreed to by the holder of the following message.
A. M. BARKER, Secretary. NORVIN GREENE, President.

Check

Knauze NY

Received at **791 BROADWAY.**

Thos a Edison 65 Fifth Ave NY Dec 3/82

All founders made to bear of take
them Postage says actualized boxes right
interference according Article Six Paragraph
five Statutes Continent all must I get
thirty percentum made name actualized
Before receiving and send others on whilst
this is being done answer.

Mr. Edison,

I am trying to get a meeting of the European Co. as early as possible and am waiting for Banker. My instructions from them at present are to have the founders shares brought over here. I may do Mr. Bailey injustice but the impression made upon me by his conduct regarding the sending of the shares over here is that he wishes to keep them there. In fact he was entirely outspoken in that view of the case when he was here. He said repeatedly that he thought the shares had better be left over there. Our Board think differently from that, and I may say I do personally.

Founders shares and the dividends accruing to them can be attached in France whenever anybody thinks he has a claim against our Company. For that and other reasons it is our duty I believe to have the founders shares brought here. The danger of attaching dividends over there is not entirely obviated even by this, but if the shares are here we have it in our power to manipulate matters to satisfy ourselves.

In view of what Mr. Bailey states about the point raised by Mr. Porges regarding the 20 percentum of the founders shares, I have cabled Bailey to send the balance of the shares and keep the 20 per cent until further ~~xxxxx~~ instructions. Before we have the meeting of the Board I will look carefully into the whole subject of the 20 per cent and will then be able to advise the Board intelligently. Meantime I see no reason why the balance of the shares, exclusive of the 20 per cent referred to by Bailey and Porges, should not be here. I have accordingly cabled Bailey to send them.

S. B. Eaton
Dec. 23rd. 1882. per M.C.

To the Directors of the Edison Electric Light Company of Europe.

Gentlemen:-

We beg to call your attention to the circumstances connected with the absorption of the old Paris syndicate by the French companies constituted Feb. 17, under the contract of November last.

By the terms of the contract made with the Paris syndicate, the company for Paris and the Nanien which embraces all the environs and the towns for a distance of a number of miles outside of the fortifications of Paris, specially Versailles, was to be constituted with a capital of 15,000,000 francs. Of this one half was to be given to your Company as consideration for the patents, 2,500,000 francs in cash and 5,000,000 in fully paid up shares.

Of this 2,500,000 francs in cash 750,000 francs was to be given to Mr Leon as commission; a further commission was to be given him of 750,000 francs in fully paid up shares making a total of 1,500,000 francs. The sum of 150,000 francs advanced by Leon for the Paris Exposition was also to be repaid from the 2,500,000 francs coming to the Company.

If the Paris syndicate had been realized the situation would have been the following:

2,500,000 cash less 900,000	1,600,000
5,000,000 shares less 750,000	<u>4,250,000</u>
Total	5,850,000 Francs

would have been the consideration to your Company for the city

of Paris and the Banlien.

You were also to give as a further commission five per cent on all business done in France to Leon and he was to have the preference at the same price of all business done in France. This last condition would naturally have assured to the syndicate the whole of France as well as Paris and the Banlien. It was also specially stipulated with the Paris syndicate that they should have the right to manufacture and sell under the Edison patents at Paris. This would have put in effect the manufacturing for France and for a part of the Continent into the hands of the Paris syndicate. No additional consideration was to be given to the New York company for the right to manufacture.

The Paris syndicate having been merged in the French Companies, the situation is as follows:

(1) In the manufacturing business the New York company receives fifty per cent of the profits of the factory and in addition has the control of the factory as completely as though it were established and administered at New York. It is unnecessary to point out the advantages from every point of view resulting from this arrangement.

(2) We get fifty per cent of the profits of the small plant business.

(3) The New York company receives eighty per cent of whatever price the patents may be sold for and has the advantage of making a contract after a demonstration of the Edison system at New York.

In illustration of this we may mention that for some two months past a negotiation has been on foot with the Gas Company of Paris for the constitution of a company for Paris, the capital stock of which is to be entirely subscribed by the gas company. The basis proposed is that of Parts of Founder representing thirty three per cent of the profits of the Company so formed for the City of Paris. It is of course impossible to say what would be the precise figure of the amount coming to the New York company under the arrangement. The capital employed by the Gas Company of Paris at present is more than 300,000,000 francs and its profits are so great that its shares of 500 francs have stood above 1600 francs for a number of years past.

The city of Paris is probably of all cities of the world the one in which Electric Lighting by incandescence will be of the greatest value. You are aware that the great majority of the houses are built in flats so that there are at least six individual consumers in each house. Without attempting to fix any figures, it is evident that the third of the profits in a company thus constituted under the auspices of the Gas Company would give figures several times greater than the amount for which we had contracted with the Paris syndicate. This is true without making account of the profits of manufacture and of isolated plants which come to us in addition.

Besides this under the present arrangement, the 150,000 francs paid for the Paris Exposition is not reimbursed by your Company, but has been made a charge on the Continental

and the Electriciens.

Connected with the Paris syndicate plan which have been avoided by its absorption in the French Companies it is also to be considered that it would have been a great embarrassment to have a company controlling Paris with the right of preference for the rest of France and with the right of manufacture independent of your control; and that these disadvantages no longer exist. These facts were so evident to us that in the month of February when the matter came up for discussion, we considered ourselves warranted in saying to some persons who could influence the action of the Paris syndicate that if the syndicate were given up some consideration would be made from the advantages resulting to the New York Company. There were reasons which we had explained to you verbally why it was not possible to make this a matter of correspondence except in a very general way which we have done in several of our letters leaving the discussion of details until we could meet you and explain verbally the circumstances. We would make the suggestion that a commission of two and a half per cent on the amounts realized by the New York Company from business done in France, Paris included, be given in recognition of services rendered to the Company in procuring the lapsing of the Paris syndicate. We believe that you will regard this commission as a very small offset to the advantages gained by the abandonment of the Paris syndicate.

We remain, very respectfully,
Your obedient servants,
Puskas & Bailey.

Before Mr..... Notary
in New York, has appeared Mr. Thomas Alva Edison, Electrical
Engineer, living at Menlo Park, New Jersey, United States
of America, who by these presents has constituted as Attor-
ney Mr. for the
object hereinafter mentioned.

As by the constitutional statutes, of the Compagnie Con-
tinentale Edison received by Messrs. Baudrier and Megret,
notaries in Paris, the 2nd. February, 1882, Mr. Edison has
brought to the said Company all the patents already taken
for inventions referring to the electric Light and to motive
power; as well as all the patents on improvements, and
certificates of addition, and all the patents for the new
inventions to be taken during Five years in the principal
Countries of Europe and particularly in Germany, that Mr.
Edison and his legal representatives have engaged them-
selves to give their help for the accomplishment of the
legal formalities necessary to assure to the society the
right to the ownership of the patents on improvements and
certificates of addition taken or to be taken, and which
constitute a part of what is given as above mentioned.

As the Compagnie Continentale, to be able to continue
the negotiations already begun for the sale of these patents
as well as to be in a position to protect in a forcible
way the integrity of the privilege attached to these patents
as judged it necessary, Mr. Edison being agreeable, to be-

come legal proprietors of said patents.

Give by the present full powers to the said Attorney, Mr.
..... to fulfil the necessary
formalities to register the cession of the patents taken
or to be taken in the name of Mr. Edison in Germany, accord-
ing to the patent laws of that Country.

In furtherance thereof sign and deposit all documents,
pay all taxes and fees, choose residence, substitute, and
generally do everything which will be necessary for the
regularization of the transfer of these patents.

Of which Act

Done in New York, the.....

1882. Electric Light - Edison Electric Light Company of Europe, Ltd. -
Accounts (D-32-029) [not filmed]

This folder contains accounts, bills, and receipts relating to the business of
the Edison Electric Light Company of Europe, Ltd.

1882. Electric Light - Edison Lamp Company - General (D-82-030)

This folder contains correspondence, agreements, and other documents relating to the business of the Edison Lamp Company. Most of the correspondence is by Francis R. Upton, general manager and treasurer of the company.

Approximately 60 percent of the documents have been filmed. The following categories of documents have not been filmed: routine correspondence regarding the shipment of lamps; duplicate copies of selected documents.

Blank No. 1

THE WESTERN UNION TELEGRAPH COMPANY.

This Company TELEGRAPHS AND RELIEVES MESSAGE ONLY on certain nights in London, which have been asserted by the sender of the following message: "I have been informed that you can be expected to send by sending a telegram back to the office of the Western Union Telegraph Company, which will not be held liable for any delay or loss of message." The sender of the message is an unscrupulous advertiser and is not to be held responsible for the contents of the same.

A. R. BROWN, Secy. NORVIN GREEN, President.

Dated Therle Park Depot 1881

Received at 791 BROADWAY Jan 3

To L. A. Edison

READ THE NOTICE AT THE TOP.

65 = save my
Shall we hold
invoices for lamps
waiting action for
increase of price
following Mr. Sawyer's
suggestion
Edison Lamp Co.

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN
791 BROADWAY, near Tenth Street,
WHERE ANY REPLY SHOULD BE SENT.
Direct Wire.

Blank No. 1
THE WESTERN UNION TELEGRAPH COMPANY.

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A. R. BROWN, Secy. NORVIN GREEN, President.

Dated 791 Broadway NY 1881

Received at 791 BROADWAY Jan 3

To Thomas A Edison

READ THE NOTICE AT THE TOP.

65 fifth avenue
Mr J. C. Branner will
not be able to meet
you until tomorrow
eleven am
Geo. H. Phelps

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN
791 BROADWAY, near Tenth Street,
WHERE ANY REPLY SHOULD BE SENT.
Direct Wire.

THE EDISON LAMP CO.,

3

THOS. A. EDISON,
CHAS. BAUCHOP,
FRANCIS H. UPSON,
EDWARD H. JOHNSON.

Menlo Park, N. J., _____ 188

He is very anxious to
join a little furnace.
The new boxes are on
an one line of pumps
and seem to work well.

I have been working all
day on them getting them
in perfect order, as that
mistakes will not likely
be made.

Yours Truly
Francis H. Upson.

The Coming Works write that
they make nothing but lead
glass. Glass with lime
instead of lead is very brittle.

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Babcock,
Frederic R. Upton,
Edward H. Johnson.

Menlo Park, N. J., ~~Jan 9~~ 1882

Thos. A. Edison Esq
65 Fifth Ave. N.Y. City.

Dear Sir:

I have
ordered this day from
Mr. Burroughs a complete
set of drawings of moulds
and shavers. By this I
understand the complete
tools used in making
our fibres from the splints.

Yours Truly
Francis R. Wapton.

Lucian Lane Co
New York
N.Y.
Mrs R. R. R. 50
7/2

Please ship to Quaker 11 Bailey
Hamburg 2000 2 lamps and 200
of lamps. Do not to be of the
same type as those you send
last year as the content of lamps
you will understand better what
we require when I send you what
these lamps are to replace the ones

(as required in plants already
sent to George. Last letter must
be carefully marked as to whether
the set of the lamps for which
they are to be sent, or whether
they are to be of the same
type as those you send 100 lamps
I'll then to Quaker 11 Bailey
I'll send you account to me

11/1/18

I will see to getting payment
when advising Raymond Perry & Co
of shipment also advise me I'll
N.Y.C. to send me copy of Bill
of Lading as early as possible
as I will probably have to present
this with the invoice when applying
for payment should be

THE EDISON LAMP CO.,

John A. Edison,
John D. Edison,
Francis H. Edison,
Edward H. Johnson.

Menlo Park, N. J., Jan 12, 1882

S. Small Sect.
65 Fifth Ave N.Y.C.
Dear Sir:

Regarding
the order for 5000 lamps
for Germany.
I think it would be
much better to pack the
lamps in casks 1000 in
each cask and let them
unpack them in Hamburg in
lots to suit. The freight
will be enough lower to
repay all expenses of
repacking and the lamps
will carry much better
and cost us less to pack.
I want an answer

THE EDISON LAMP CO.,

John A. Edison,
John D. Edison,
Francis H. Edison,
Edward H. Johnson.

Menlo Park, N. J., _____ 1882

as soon as possible for
we shall commence packing
in a day or two. There
will be only one Yalk
in a cask

How about European
bonds?

Yours Truly
Francis R. M. P. S.

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Batchelor,
Francis H. Upton,
Edward H. Johnson.

Harrison
Menlo-Park, N. J., Jan 13th 1882,

Prof. O. A. Edison
Board

I went to the Clark thread work last night see lamp burning. Noticed something strange thru the lamp are suspended directly over a continuous moving arm & as this arm moves back & forth the carbon in the lamp inclines in sympathy in the direction of the moving arm the arm moves back & forth about 60 times a minute, but at a uniform rate in every body that has seen the light being persons acquainted with all the forms including Clark say they noticed the quality of the light without reserve. All were highly pleased with it & of the fault they found with the white light the light they previously had where screws & not few very truly yours J. P. Brady

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Batchelor,
Francis H. Upton,
Edward H. Johnson.

Menlo Park, N. J., Jan 13 1882

Saml. Insull Esq.
15 Fifth Ave.

Dear Sir:

I enclose order for European bonds in name Thos. Perry. The money is waiting for them.

Please ask Mr. Edison if he wishes Maj MacLaughlin's name to be added on our paper. I think it would be well to drop all names, as long as Johnson and Batchelor are interested in giving us orders.

Yours Truly
Francis R. Upton

THE EDISON LAMP CO.,

Thomas A. Edison,
Genl. Mgr.,
Franklin P. Upton,
Edward H. Johnson.

Menlo Park, N. J., Jan 17th 1882

Saml Insull Esq,
#65 5th Av.,
New York

Dear Sir

To keep our credit it is necessary that we should pay Comings Glass works a check this week.

They only ask for acct. account which is \$1767.⁰⁰ We owe them in all \$4889.³⁰ We are overdrawn in Dixie, M. Co. \$250.⁰⁰ and no money in Railway.

Yours truly
Edison Lamp Co

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Prof. George
Boston, Jan 17 1882

Rec
Thos. A. Edison Esq
My dear Sir -

Please accept my thanks for the specimens of carbon loops send me a few days more.

Your kindness encourages me to ask if at some time when it is further convenient you could send me a sample of the bamboo from which the loops are made, some or two loops cut but not yet carbonized. I am yours very truly
Chas. R. Cross

THE EDISON LAMP CO.,

Thos. A. Edison,
Chief Engineer,
Franko R. Upton,
Edward H. Johnson.

Menlo Park, N. J., Jan 17, 1882.

Dear Mr. Edison:

The spiral lamps show about eleven per hour power, but are all very short lived judging from the blue in them. It sixteen candles and that four of ten were gone at noon today.

760 minutes

1145

1415

1795

giving 16 candles. John West is trying a large number of experiments and is getting very good shaped spirals.

THE EDISON LAMP CO.,

Thos. A. Edison,
Chief Engineer,
Franko R. Upton,
Edward H. Johnson.

Menlo Park, N. J., _____ 188

Howell has had a lamp on the gauge today with a piece of charcoal in a bulb connected with it. The vacuum has been steadily rising with the lamp burning at about 48 candles. It rose from 30.000 at 11 A.M. to 130.000 at 4 P.M.

Holger is going to make a number more lamps for him and we will soon have a life test.

Do you want the lamp with a double chamber run through

3
THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Batchelor,
Frederic R. Upton,
Edward H. Johnson.

Menlo Park, N. J., _____ 188

and tested for life, or shall we wait for you to come out here?

How about the names on our paper as asked the other day? Shall we keep the names and add that of Wm. Macdougall?

Welsh is doing fairly running all the forms in boxes packed with wood charcoal. We have not cleaned the forms so far this week and have had no sticking.

The carbons are very good resistance and excellent body and color.

4
THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Batchelor,
Frederic R. Upton,
Edward H. Johnson.

Menlo Park, N. J., _____ 188

Lansom does not want to take charge and experiment with Welsh here, as he says he could spoil any experiment if he so wished to, especially as ^{Lansom} he would have to use the men that are under Welsh now. He wants us to build our furnace at Newark and let him start there with full sweep. I will write you fully about this if you desire and when and how we want to build the furnace. I am running through the new lamps as fast

THE EDISON LAMP CO., ⁵

Thomas A. Edison,
 Chas. Batellelor,
 Fresnole R. Upton,
 Edward H. Johnson.

Menlo Park, N. J., _____ 188

as they come and putting
 in old lamps enough to keep
 the socket room busy. The
 old lamps are nearly
 all marked and are
 mostly the Veg. Yalke
 or high so that they
 do not injure the Yalke
 we use for the England
 the Continent or Ireland.

There are a great many
 good lamps among the
 old, I feel sure that
 they would average 600
 hours at 16 candles. Those
 that tend to leak or flay
 out have had a chance
 in the long time that

THE EDISON LAMP CO., ⁶

Thomas A. Edison,
 Chas. Batellelor,
 Fresnole R. Upton,
 Edward H. Johnson.

Menlo Park, N. J., _____ 188

they have been stored.
 We are now averaging
 about 800 lamps a day
 from the pumps. The curves
 are about the same as
 before and there is a
 very small number of arcs.

Only one lamp in
 twenty five at 16 candles
 has given out in the past
 eight days. Howell is
 making out the time sheet
 for them and will send
 it to you tomorrow.

Yours Truly
 Thomas A. Edison

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Batchelor,
Fremie R. Upton,
Edward H. Johnson.

Menlo Park, N. J., Jan 20 1882

Dear Mr. Edison:

In answer to yours of Jan 7. I will have 60 lamps of about the value mentioned ready by the middle of next week.

The lamps with a piece of charcoal near the inside part did not show any longer life than the usual run of lamps. Howell has been having his gauges fixed so as to prevent any further.

Holzer has nearly finished a set of lamps with both on side.

Yours Truly
Francis R. Upton

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Batchelor,
Fremie R. Upton,
Edward H. Johnson.

Menlo Park, N. J., Jan 20 1882

Paul, Jussell Esq.,
#65 5th Ave.

New York

Dear Sir,

Your favor of 19th inst. to F. R. Upton was handed over and in future we will drop all names from our paper material.

We deeply regret that Mr Edison should have cause to complain of our negligence in sending in reporters. And in future will follow your letter to a T.

Yours truly,
Edison Lamp Co. &c.

THE EDISON LAMP CO.,

J. E.
Thomas A. Edison,
Chief Inventor,
Francis B. Upstart,
Edward H. Johnson.

Menlo Park, N. J., *Jan. 21, 1887*

Thos. A. Edison
65 Fifth Ave. N.Y. City.

Dear Sir:

Enclosed
please find a letter to
Maj. Eaton asking for in-
formation to make Vanck sell
Dr's. lamps. Holzer thinks
we can get \$2.00 each for
the lamps which will cost
us about 25 cts. There would
also be a very large demand
from amateurs with letters
to show the Edison lamp.

We might make enough
profit on these to make us
whole on our contract until
the demand comes.

Yours Truly Francis R. Upstart

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THE WESTERN UNION TELEGRAM COMPANY.
This is a message transmitted by the Western Union Telegraph Company, which is not responsible for the contents of the message. The message is not to be used for any other purpose than that for which it was transmitted. The message is not to be used for any other purpose than that for which it was transmitted. The message is not to be used for any other purpose than that for which it was transmitted.

Newark, N. J., Jan. 21, 1887

791 BROADWAY, N.Y. City
Thomas A. Edison

65, 5th Ave

READ THE NOTICE AT THE TOP.

*Will see you as
directed at seven
o'clock
James Bradley*

IF THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN
791 BROADWAY, near Tenth Street,
WHICH ANY REPLY SHOULD BE SENT,
Direct Wire.

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. B. Kettering,
Francis R. Upton,
Edward H. Johnson.

coll. 1/2

European Light
Bradley
Harrison
Menlo Park, N. J. June 24th 1882

G. Small by
65 5th Ave N.Y.

I send you this by the
drawings of fibre mach
for Mr. Batchelor B.Y.
Mass Am Per
order Mr. Upton

Sincerely

Edison Lamp Co
Frank Bradley

PS I did not pack them as
Mr. Edison wants to see them
I sheet showing drawings of mould
& plan white stone

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. B. Kettering,
Francis R. Upton,
Edward H. Johnson.

Menlo Park, N. J., June 27, 1882

Small by
15 Fifth Ave N.Y.
Dear Sir:

The plated
up carbons for the Lame
battery in England were not
as successful as wished.
I will make another form,
which I hope to have come
of by end next week.

Yours Truly
Francis R. Upton

THE EDISON LAMP CO.,

Edison,
City Engineer,
Fresno R. Upton,
Edward H. Johnson.

Menlo Park, N. J., Jan 28 1882.

Mr. Sam'l Small Esq
65 Fifth Ave. N.Y.C.

Dear Sir

Please
send to Mr. Bradley
at Harmon shipping direction
for the cutting moulds
to send to Mr. Batcher.

We shall ship a
finishing and roughing
mould for 6"

We order of Brunswick
cut of 3" which of
Mr. Batcher does not
want we will keep

Yours Truly
Edison Lamp Co.
L.H.

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Batchelor,
Frederic H. Upton,
Edward H. Johnson.

Menlo Park, N. J., Feb. 2 188 2

Dear Mr. Edison: I had
a letter from Brunnett
today offering \$5,000 more
for the Petts Property than
we paid for it. We could
probably get \$10,000, as you
see we bought at a
bargain and Tuesday
Monday's lamps have
been tested and were not
extra good. The X lamp
bulbs are on the pumps
today with no remarkable
results. The blue goes out
fairly in the report.

Lawson's carbons will
be on the pumps by Mon-

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Batchelor,
Frederic H. Upton,
Edward H. Johnson.

Menlo Park, N. J., _____ 188

day with B₂ and Tuesday
with A carbons.

His A carbons 8X1 3/2
are testing about 300 hours
which is very good. They
are fine looking, tough
and with excellent ampere.

There are some spattered
ones among them, but not
badly spattered.

We have taken off
one 100 candle lamp and
lost one by an an.

Yours Truly
Francis R. Upton.

THE EDISON ELECTRIC LIGHT CO.
65 N. 5TH AVENUE.

Edison Lamp Co

New York, ^{Friday} ~~July 22nd~~ 1882

Mr. Edison:

Goddard

We are still continuing to pay Mr. Braun's salary of one hundred dollars per month. How much longer do you expect him to remain in South America? Is he accomplishing enough there to make it worth while for us to pay him that salary?

Please advise

Yours truly
G. Goddard
H. sec

No Answer

THE EDISON LAMP COMPANY,

Wm. B. G. J. Feb 6th 1882

Paul Dussell Esq,
65 5th Ave.
New York

Dear Sir:

In reply to your favor of 19th ult. relative to lamps related on carbon and for use by Grove battery. People to be sent to E. A. Johnson London. We have sent them to day by express through H. P. & Co. Wall St.

Yours truly
Edison Lamp Co.

THE EDISON LAMP CO.,

Thos. A. Edison,
Chas. Bathelet,
Gerrard R. Upton,
Edward H. Johnson.

Menlo Park, N. J., _____ 188

Thomas Lagon Cay.

Dear Sir,

Dear Jim
I saw Muffie Linnan
(New) that is in the Laboratory
Mr Edison requested me to
find for it

Yours re
H. H. Holzer
C. Samples

2/9/87

THE EDISON LAMP COMPANY,

Menlo Park, N. J., Feb 9th 1887

Paul Durall Esq.
65 5th Ave
New York

Dear Sir,
Enclosed find
invoice of lamps
shipped in your order
6 We did not deduct
2% as we understand
the 2% is to begin on
all orders charged to
The Edison Regt.

Yours truly
Edison Lamp Co.

Am. Electric Co
No. 10
66
Pitts. Mass.
N.Y.

Miscellaneous

Emerson

DARTMOUTH COLLEGE,

Hampden, N. H., Feb. 21 1882.

Prof. J. A. Edison

My dear Sir,

A short time ago
I received by Express six of your in-
conducent lamps for which I desire
to express to you my sincere thanks.

I am just putting them up & trying
them & expect to get good results.

I wish to purchase six more
to use in my Laboratory which is
rather large, & do not know of whom
to order. If you will kindly
inform me where I can get them
you will confer a great favor.

Again thanking you for the lamps

I remain Very truly Yours,

C. F. Emerson

Prof. of Physics.

Blank No. 1.

THE WESTERN UNION TELEGRAPH COMPANY.

The Company's Executive and Administrative management is a condition limiting its liability, which is hereby assumed by the sender and recipient of the message. The Company is not responsible for the transmission of messages or for the accuracy of the information contained therein. The transmission of messages is subject to the conditions of the tariff of the Western Union Telegraph Company. The transmission of messages is subject to the conditions of the tariff of the Western Union Telegraph Company. The transmission of messages is subject to the conditions of the tariff of the Western Union Telegraph Company.

HORVIN GREENE, President.

Date March 2nd 1881

Received at 791 BROADWAY.

READ THE NOTICE AT THE TOP.

*Please here at
six twenty
J. R. Upton*

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN
791 BROADWAY, near Tenth Street,
WHERE ANY REPLY SHOULD BE SENT.
Direct Wires.

THE WESTERN UNION TELEGRAPH COMPANY.

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A. H. BROWN, President.

Date March 2nd 1881

Received at 791 BROADWAY.

*Edwin Inall
60-5 ave*

READ THE NOTICE AT THE TOP.

*Dyer will go in
this P.M. with necessary
documents to fully
explain all foreign
shipments.
Edwin Inall*

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN
791 BROADWAY, near Tenth Street,
WHERE ANY REPLY SHOULD BE SENT.
Direct Wires.

THE EDISON LAMP COMPANY,

17 quad
New York, N.Y., March 21st 1882

James D. Sullivan,
#65 Fifth Ave
New York

Dear Sirs,
At your
earliest convenience
please notify me
or rather the E. Lamp Co.
about Holzors %
interest in the afore
said company. So I
can make correct
entries of last
assessment made
march 8th 1882,

trump
"Oh, what a head I had"

THE EDISON LAMP COMPANY,

New York, N.Y., March 21, 1882

Mr. James D. Sullivan
65 Fifth Ave. N.Y. City
Dear Sir:

I expect
to be at your office tomor-
row Wednesday at twelve
noon.

Yours Truly
Francis J. Minton

RECEIVED
APR 11 1882
EDISON LAMP CO.,

ANSWERED

6th April 1882
Columbia Park, N. J., March 29 1882

Mrs. A. Edison Esq
65 7th Ave. N.Y. City.

Dear Sir:

I have a matter in dispute that
we have agreed to leave to you for
decision.

I made a contract last fall
with a boy to put the copper wire
on the inside parts for making slumps
from. The price had started at 35 cts.
per 100 and the contract was for
12 1/2 cts. per 100 inside parts or
200 solderings. and I told the boy that
I would not cut ~~for~~ until 300,000 inside
parts were made. He agreed to finish
that 200 solderings of the wire to
the platinum before going into inside
parts could be made in ten
hours. This is the other soldering job
and 1750 was what the boys
claimed as a day's work.

THE EDISON LAMP CO.,

Newark, N. J. _____ 188

He soldered that number and proved that he was the fastest worker we had and broke their price by establishing another days work.

About two weeks after he got this contract he made an improvement in the process that enabled him to do half again as much work and earn \$2.²⁵ a day of ten hours.

He is the fastest worker we have in the place and is thoroughly in earnest to save his money and get along. He is independant and sharp.

Holzer has cut the price to eight cents and objects to carrying out my agreement. The sum involved is \$15 as the contract does not go to Newark.

Yours Truly Francis X. O'Brien

WE must carry out all
our promises if it busts
the Co

THE EDISON LAMP COMPANY.

Harrison

RECEIVED

APR 6 1892

Jawel Howell Esq.
#65 Fifth Ave. 188...
New York

Dear Sir,

Please address
all future commun-
cations to us at
Harrison N.Y. as
our office is now
here. Our telephone
number is 591

Yours truly
Edison Lamp Co.

File

THE EDISON LAMP CO.,

RECEIVED

APR 8 1882 *Harrison*

ANSWERED *Harrison* Newark, N. J., April 7 1882

1-20-1882

Thos. A. Edison Esq.
65 Fifth Ave. N.Y. City
Dear Sir:

In accordance with your letter of April 6th, I will call on *Harrison* Bros. Co. of Newark at earliest convenience.

I am now at *Harrison* the greater portion of my time and every thing is going on smoothly. *Bradley* is just the man for doing work with masons, pipe-fitters and laborers. He understands how to get the work done exactly.

I think the duties of ~~the~~ the factory could be arranged so as to give the best results if *Bradley* were given an independant chance.

I suggest that *Holger* be made superintendent of the manufacturing of lamps and to take fibres from *Bradley* and turn lamps in for

THE EDISON LAMP CO.,

Monte Park, N. J., _____ 188

testing Bradley to have charge of
file room and of all repairs or
improvements and of motive power.

I will take the office and
as connected with the office the
testing and packing of lamps and
the supply department. As now I
shall reserve the right of directing
the policy of the manufacture and
the deciding whether repairs or changes
in manufacture are needed.

I want the factory to run in the
smoothest possible manner and after
long and careful thought I think
this is the best way.

Holzer, I know, would like to take
the whole and perhaps would do well,
but as long as you have those
that are more specially trained
I think it would be well to sub-
divide the work. Bradley is thoroughly
practical and practiced in all that

THE EDISON LAMP CO.,

Monte Park, N. J., _____ 188

concerns repairs and construction, and especially in engine and boiler work. Holzer has had very little experience and not as much judgement as Bradley has.

Edison Lamp Co.

Holzer is a most excellent man to get along with help to instruct them; cheer them up and keep them in order. He can get good and cheap work and will do well if I have enough to do.

I am thoroughly in earnest to have some decision of this as soon as possible that an understanding may be reached and acted upon.

Yours Truly
Francis R. Repton

THE EDISON LAMP COMPANY,

New York, N. Y. April 14 1882

Mrs. A. Edison
65 Fifth Ave New York

Dear Sir:

Regarding
the admission of visitors.

We have a man employed
to see that the gates are
closed and that strangers
are sent to the office.

As soon as it is practical
the various departments will
be separated so as not to
allow any visitors from
one department to another.

Yours Truly
Francis R. Mpton

10

The Edison Electric Light Company Limited.
87, Holborn Viaduct.

London, E.C. APRIL 21ST. 1882

T.R. UPTON ESQ.,
EDISON LAMP COMPANY,
EAST NEWARK,
NEW JERSEY. U.S.A.

DEAR SIR,

I SHALL FEEL OBLIGED IF YOU WILL
SEND ME AT ONCE PRICES FOR THE 8, 16, 32,
AND OTHER HIGHER CANDLE POWER, LAMPS WHICH
YOU ARE NOW TURNING OUT.

I AM, DEAR SIR,

YOURS FAITHFULLY

White
SECRETARY.

Send to Detroit
These made were made by
hand & price of course
poor. we cannot give
exact prices until we have
made a lot which will be soon
the 32 candle I think will not
exceed 50 cents. 50 candles may
be 60 c. 100 candles about \$2.50

32 candle lamps 1.00
Assorted colors " 1.25-
8 416 candles .50
75 more cases 1.00

Sample for return
Apr 27-82

ST. NICHOLAS HOTEL
 © BROADWAY, New York.

GRAND WELLS BUILDING OF THE AMERICAN PLAN.
 THE ST. NICHOLAS HOTEL SITE IS AN ELEGANT
 AND CONVENIENT ONE ON "BROADWAY" WHERE
 THE TRAFFIC IS SOUGHT TO BE CONCENTRATED.
 THE HOTEL IS A MODERN BUILDING AND POSSESSES
 ALL THE ADVANTAGES OF THE QUARTER OF THE BROADWAY
 HOTEL. THE BARRY BUILDING IS A GOOD RETURN.

**ST. NICHOLAS CAFE
& RESTAURANT.**
 THE MOST COMPLETE AND ACCESSIBLE ONE
 IN NEW-YORK.

April 27, 1882.

Laurel. Small Eng.
 65 Fifth Ave. N.Y.C.
 Dear Sir:

Regarding
 the buildings of the Lamp
 Factory at Moul Park.
 We will sell them
 to Mr. Edison for \$500.
 cash, including what
 he has already taken away,
 and excepting the fruit
 preserving building.

I think it is a bar
 gain for him as he
 will get the free main

building the engine building,
 coal shed, furnace, and
 a large amount of boards
 and shanks that could
 be used in construction.

There are also a number
 of brick and many good
 fire brick on the place,
 he would find it a
 valuable mine to draw on
 and we should be pleased
 to have the matter settled.

I would much rather
 sacrifice to him than let
 the farmer in neighborhood
 get the chance.

Please let me know as
 soon as possible concerning
 this.

Yours Truly
 Francis R. Appleton.

THE EDISON LAMP COMPANY

H. H. S.
May 1st 1882
Harrison, N. J.

Paul Insull Esq.
#65 Fifth av.
New York

Dear Sir,

Enclosed find
receipted bill for
Buildings at Muelo
Park. We debited
T. A. Edison mfg Co, of
Muelo Park N. J. with
the amount.

Yours truly
Edison Lamp Co.

[ENCLOSURE]

Invoice No. _____

Harrison N.J. April 27th 1882

*Thomas A. Edison Esq.
New York*

Per order No. _____

To THE EDISON LAMP COMPANY, Dr.

Shipped by _____

*As per contract with my
Mrs. Holzer - For all
Buildings on premises
lately occupied by the
Edison Lamp Co.*

*Received Payment
Edison Lamp Co.*

Francis Holton

Old fruit building excepted.

\$ 500 00

*Answer
11th May 82*

*Office of Wallace & Sons,
Manufacturers
of Brass and Copper Goods*

WAREHOUSE
54 CHAMBERS & 71 PRACE STS.
NEW YORK.

Ansonia Conn. May 5th-82.

Thomas A. Edison; Esq.

Edison Lamp Co.

Harrison, N. J.

Dear Sir:-

In reply to your esteemed favor of the 3rd inst asking for
price of 20 lbs Soft Carbon mixture, would say that we can furnish
you this quantity at 30 cents per pound. . Trusting to receive
an order from you,

We Remain

Yours Truly

WALLACE & SONS.
R.

*Send 25 lbs
soft carbon mixture to
the Edison Lamp Co. East
Newark N.J.*

J. E.

10
THE EDISON LAMP COMPANY,

Harrison, N. J., May 8, 1882.

Mrs. W. Edison Esq.
Menlo Park (N.J.)

Dear Sir:

I intend to visit Menlo Park next Friday morning and every Friday morning while you are at the Park unless I receive notification from you. I shall take the 9-10 A. M. train from N. J.

Yours Truly
Francis R. Apton.

10
THE EDISON LAMP COMPANY,

Harrison, N. J., May 10, 1882

Saml. Dinsull Esq.
Menlo Park N. J.

Dear Sir:

I found Bennett at his office at noon. There was no grace on the notes as you will see by the deed or agreement.

There has been no protest and no trouble. The note lays at the bank awaiting the certification of my check.

I paid interest on eighteen months note making you owe me on Edison's account

178.52	12 month note
178.52	18 month note
357.04	

Yours Truly Francis R. Apton.

John W. Porter,
Cottons & H. Loring,
Geo. Wiles Barn,
Chas. Francis Stone,
Geo. S. Hamlin,
Wm. S. Porter.

P. O. Box 1830.

Porters, Loring, Loring & Stone
Attorneys & Counsellors at Law
No. 3 Broad St. New York.

May 12th 1882

My dear Edison,

Major Eaton informs me that you are impatient to have the lamp contract attended to. So am I! I received a copy of the contract, the terms of which I had nearly forgotten, only three or four days ago, if I remember rightly. Just before receiving it (I think it was before) I saw Upton, and asked him to state what points he thought should be amended; and he informed me that he had already drawn up some paper which expressed his ideas; and we parted with the understanding that that was to be sent home.

I have been twice to 65 hoping to find small as the means of communication with you upon the same subject; and I went there again this morning, arriving shortly after he had left. I then tried to get him at Goerck Street in order to make our appointment with you for tomorrow or Tuesday - Monday being engaged with me. No one seemed to be in the office in Goerck St

at the time and so I failed.

I now enclose my copy of the contract, and beg that you will make a note of the changes which you think ought to be made with reference to the sections of the contract: and afterwards to fix an hour on Tuesday when we can meet. I will go to Menlo Park, or will meet you here as you prefer. Probably as I have now to come from the country, and as you have things to take your attention at Menlo Park, we should gain time and make progress by meeting here at my office on Tuesday at, say, 12 o'clock.

Let me know if that will be agreeable to you.

On the back of the enclosed paper in pencil memorandum you will find stated some figures which I took from Barker's report to the Director of the Mint on the Maxim light. I have asked him to make a copy of that paper for you, although it is a private report. Upon the question of efficiency he states that, taking the Maxim light at 15 candles, they burn 4.92 per indicated horse power, or an aggregate of 73% ^{1 candle} per horse power.

Very truly yours

T. P. A.

Thomas A. Edison Esq.
Menlo Park N.J.

Lamps - 40-cent Glass Lamps.

The lamps are made of glass and are of various sizes and shapes. They are used for lighting and are very durable. The price of each lamp is 40 cents.

These lamps are made of glass and are of various sizes and shapes. They are used for lighting and are very durable. The price of each lamp is 40 cents.

On the back of the envelope there is a small card which contains the name of the manufacturer and the address of the factory.

The lamps are made of glass and are of various sizes and shapes. They are used for lighting and are very durable. The price of each lamp is 40 cents.

They have been found to be very durable and are well adapted for use in homes and offices. The price of each lamp is 40 cents.

MEMORANDUM OF AGREEMENT made this _____ day of _____ 1882, between the Edison Electric Light Company of the City of New York, party of the first part, hereinafter called the Light Company, the Edison Lamp Company, a Corporation organized under the laws of the State of New Jersey, party of the second part, and hereinafter called the Lamp Company, Thomas A. Edison, party of the third part, and Charles Batchelor, Edward Hibberd Johnson, and Francis R. Upton, parties of the fourth part.

*From New York
March 1882*

WHEREAS a contract has heretofore existed between Mr. Edison and the Light Company, dated the eighth day of ~~Jan~~ ^{March} 1881, relating to the use by Mr. Edison of the Light Company's patents in the manufacture of electric lamps, the provisions whereof are claimed and represented by Mr. Edison and the parties of the fourth part-- his associates in business thereunder-- to have been proved to be inequitable and oppressive to them in practice and especially ^{those} the provisions thereof which fix the price of lamps, and permit the Light Company under certain circumstances to modify or revoke the manufacturing license created thereby,

And WHEREAS the said Edison and his associates have been put to heavy charges in the matter of experiments made with the view to improve the economy and efficiency of said lamps, which it is agreed by the Light Company ought not to be wholly borne by said Edison and his associates;

Now, therefore, with the object of reforming the relations of said Edison and his associates as licensed manufacturers ^{with to} of the said lamps, and ~~between~~ the Light Company ~~and~~ ^{with} ~~other~~, so as to constitute a permanent working relation which

will be equitable and mutually beneficial:

IT IS AGREED AS FOLLOWS:

First. The Light Company and Mr. Edison hereby rescind the and cancel the agreement of the eighth of ^{March} January, 1881, so far as relates to future business, such rescision to take effect ^{On the day of 1884} when this contract shall be fully executed.

Second. Mr. Edison and the parties of the fourth part having organized themselves under the Laws of the State of New Jersey as a Corporation under the name and style of the Edison Lamp Company of New Jersey, all the accounts and business of Mr. Edison and his said associates with the Light Company in respect to the manufacture of lamps under the above mentioned agreement shall be transferred to and taken over by the Lamp Company, and settlements shall be made with said Company.

Third. The Light Company does hereby license and agree to license the Lamp Company with the exclusive right to manufacture within the United States the incandescence electric lamp and all parts thereof invented by Mr. Edison, and which is now, or may at any time hereafter, be the property of the Light Company ^{covered by letters patent upon which} under letters patent; and will not license under any of said letters patent the introduction into the United States, to be used therein, of such lamps manufactured in foreign countries.

Fourth. This license unless terminated, or the exclusive character thereof modified as hereinafter provided, shall continue in respect to each of such letters patent during the life of the same.

Fifth. The Lamp Company agrees to supply promptly all

4
/

reference to book of books

access at all times to the manufactory and books of the Lamp Company, and all other books connected with its business, for the purpose of investigating and verifying the facts.

In determining the cost, the total output of the Lamp Company during the six months, whenever sold, shall be taken into account, and the average cost of all the lamps manufactured during such period shall be taken as the actual cost of each lamp for the purposes of this contract;

Sixth. It is mutually conceded by the parties:

(1.) That the Lamp Company must have such assurance of being continued in this exclusive right of manufacturing as will justify it in making adequate preparations to meet the demands of the Light Company or its licensees for lamps at all times during the period of this contract;

(2.) That the Light Company cannot safely place the manufacture of its lamps wholly out of its control so as to be unable to protect itself practically and efficiently against the possible consequences of failure or inability of the Lamp Company to supply all demands for lamps. And it is therefore agreed in order to enable the Lamp Company to make suitable provision to meet all such demands so far as they can be foreseen, that the Light Company shall whenever it grants a license for the use of its lamps in any territory within the United States, give notice thereof to the Lamp Company, with the name of the licensee, and will require from such licensee notice and advice from time to time of the number of lamps required by it, not less than three months before the same shall be required, which notice and advice the Light Company will promptly transfer to the Lamp Company. The Light Company will also, upon the request

a
~~~~~

B  
4

of the Lamp Company whereat may deem the same to be necessary obtain so far as is convenient and proper, suitable security, or such payment in advance, as will justify and enable the Lamp Company to establish additional buildings or machinery when necessary to supply any extraordinary demand for lamps. It shall be the duty of the Lamp Company ~~on receiving the payment therefor~~ to supply within three months date after notice of every specific order for account of the Light Company or its licensees the number of lamps called for.

*Handwritten:*  
 This is a copy  
 of the original  
 and is to be  
 returned to  
 the  
 Light  
 Company  
 if  
 required  
 C.L.

In all business connected with the supplying of lamps the Light Company will act as the agent both of the licensee and the Lamp Company without charge to the Lamp Company, receiving any royalty which it may deem proper to collect upon the sale of lamps directly from the licensee <sup>or it may require the same to be added to the price of the lamp & distributed</sup>

*Handwritten:*  
 B  
 B

This agreement does not constitute a license to the Lamp Company to sell lamps except as herein expressly provided; and the Light Company agrees as a continuing condition of its manufacturing license that no order shall be executed in any of the countries of North or South America except through the Light Company. All settlements for lamps shall be made through the Light Company as agent for the Lamp Company, to

*Handwritten:*  
 C.C.

collect all amounts due to it. All shipments and deliveries shall be made under the sole direction of the Light Company to such degree as it may choose at any time to exert the same, but without any charge therefor to the Lamp Company.

*Handwritten:*  
 C.L.  
 and  
 to all other countries

Seventh. It being essential to the Light company's interests that its licensees shall at all times be able to procure full supplies of lamps with promptness and despatch, of suitable styles, quality and character.

*Handwritten:*  
 5/

IT IS FURTHER AGREED:

*Vertical handwritten note on right margin:*  
 A second copy of this agreement to be given to Licensee of Light Co. by the Light Co.

C.

1. That all lamps shall be of one or more standard kinds, sizes, styles and grades to be determined by the Light Company, and from time to time modified by it when necessary to introduce improvements affecting style, efficiency, economy, durability, or other qualities of such lamps. But any change which shall enhance the cost of such lamps beyond what is necessary at the date of this agreement shall be made the subject of a revision of prices, preserving the same relative proportion of outlay and profit as herein fixed; and in case of failure of the parties to agree upon a revised price the difference shall be submitted to competent arbitrators in the manner provided for in the <sup>article hereof.</sup>

2. That the diagrams and drawings hereto annexed, marked "Exhibit A." shall be taken as establishing such standards until the same shall be modified by the Light Company.

3. That the Lamp Company shall deposit with the Light Company complete working ~~drawings~~ models of such lamp in all its different forms as it has heretofore been made by Mr. Edison and his associates, and hereafter, during the continuance of this contract, full and complete duplicates of all working drawings or models of improvements or changes in lamps and drawings of all machinery, tools and appliances of every kind employed by it in the manufacture, handling or treatment of lamps or the parts thereof shall, with full specifications of the same, be deposited with the Light Company as soon as the same come into use.

4. In case the Lamp Company shall fail to supply all the lamps required by any licensee of the Light Company within the time above provided, the same having been called for in

a

B Model

in witness whereof  
 I have hereunto set my hand  
 and the seal of the  
 Light Company this 11th day  
 of August 1888

6

2  
 good faith and for actual use, the Light Company shall have the right to manufacture, or cause to be manufactured by ~~the~~ others, such an amount of lamps as may in its judgement be required not only to supply quantities as to which the Lamp Company shall have been deficient, but also such further quantity as may in its opinion be required to guard against future failures of a similar character.

And having in view the necessity which the Light Company is under to make its territory rapidly valuable by providing ample sources from which its licensees may obtain supplies (which object is sought to be accomplished through this agreement) it is agreed that the Light Company ~~must~~ and shall be left free to judge from time to time acting reasonably and with good faith, whether the resources of the Lamp Company are such that it is liable to fail in supplying the lamps which have been, or may be, required by the Light Company's licensees; and acting in good faith upon such judgement the Light Company shall have the right, after any failure by the Lamp Company, to make, or <sup>to</sup> cause to be made, by others, such amount of lamps as may in its judgement be required to supply past deficiencies and guard against the contingencies of future failure, and to sell and dispose of the lamps thus made at such time and in such manner as it may think proper; but it shall not have the right to manufacture, or authorize the manufacture of lamps by other persons, except to such limited extent as may seem necessary for the purposes above set forth.

3  
 In contracting for lamps with any other manufacturer, or in providing means for such manufacture by itself, <sup>the Light Company</sup> shall

*Arbitration  
New*

be at liberty, however, to provide or contract for such future supply as will justify the outlay for plant necessary to cover the actual or possible deficiency by the Lamp Company which is sought to be guarded against.

*Render copy  
cut - 11/11/17*

5. The Lamp Company shall have the right, without royalty, to manufacture lamps for export to all foreign countries other than those of North and South America, but notice shall be given to the Light Company of the time, place, and amount of each exportation before shipment of the same from the manufactory, and the books of entry and correspondence of the Lamp Company for any person acting for it and relating thereto shall at all times be open to the inspection of the Light Company; but this right to manufacture for export shall not be allowed to interfere with the prompt execution of all orders by the Light Company or its licensees, and such orders shall always take precedence of all shipments to foreign countries.

6. Should the Lamp Company continue for a period of six months to fail in supplying the requirements of any of the Light Company's licensees, <sup>in standard form</sup> it shall then be at the option of the Light Company to terminate this exclusive license; but in that case <sup>it shall be for actual cost</sup> it shall, if required by the Lamp Company, take over the manufactory and other property erected and provided by the Lamp Company for the purpose of such manufacture at the actual cost thereof, with a fair allowance for depreciation by use, and in case the valuation cannot be agreed upon by the parties, the same shall be fixed by three competent appraisers, one to be chosen by the Light Company, one by the Lamp Company, and the other to be chosen by said two appraisers.

*8*

Should the Lamp Company elect not to make such a require-  
 ment, it shall be the duty of the Light Company to deliver to  
 it the orders of its licensees for such amount of lamps as  
 the Lamp Company may have furnished as its average daily out-  
 put for the three months next preceding any notice by the  
 Light Company of its intention to terminate the exclusive  
 license upon the grounds above provided; and as to any excess  
 over such average output which in its judgement is likely to  
 be required thereafter by itself or its licensees, the Light  
 Company shall be free to manufacture, or authorize the manu-  
 facture of, the same by other parties, as provided in the  
 foregoing clause.

7. In case the Lamp Company shall supply or sell lamps  
 to any person or corporation in the United States, or in any  
 other countries of North or South America, other than the lic-  
 ensees of the Light Company, or shall sell to any of such  
 licensees except upon an order in each instance made by the  
 licensee through the Light Company, or by the Light Company  
 itself, or shall fail to keep proper books of record and  
 account for the purposes herein provided; or shall refuse ac-  
 cess thereto to the Light Company's agents at any proper or  
 reasonable time for the purposes of determining the cost of a  
 manufacture, or the amount of lamps sold, the persons to  
 whom sold, or shall fail to furnish models, working drawings  
 and specifications as above provided, or shall delay the  
 supply to the Light Company's licensees by selling lamps to  
 foreign countries without the consent in writing of the Light  
 Company, it shall be at the option of the Light Company to

*Not clear*

*under the license*

*or its agents*

*of agents*

*9*

*continue to*

*to the Light Co or its licensees*

*reason of*

*How about  
compensation  
for patents etc.  
if license taken  
anyway*

revoke all rights, privileges or licenses granted or arising hereunder.

Eighth. This agreement is intended especially to relate to the inventions or letters patent upon inventions of Thomas Alva Edison being the property of the Light Company made or granted prior to the \_\_\_\_\_ day of \_\_\_\_\_ 188 , but in case either of the parties hereto shall become the owner of any other letters patent or inventions, or any licenses therefor, relating to the lamps, or to <sup>patents or</sup> tools, machinery and appliances useful in making the lamps, the Light Company and the Lamp Company shall each have secured to it in a proper manner the right to use and authorize the use of the same in the making of any lamp which it is empowered to make, or procure to be made hereunder. It shall also be an obligation of good faith binding on the Lamp Company and upon the said Edison, Batchelor, Johnson and Upton, and whoever may be associated with them and derive benefit herein to take all licenses or rights to <sup>useful or make use of</sup> use the inventions of others in such a way that the Lamp Company may be able to convey, and the Light Company to demand and receive a complete right of use thereof to the Light Company, or such persons as it may authorize to manufacture. Prompt notification shall be given by each Company to the other of the acquisition of the ownership or the right to use any invention in or about the manufacture or handling of lamps or any of the parts thereof.

Ninth. In determining the cost of lamps no compensation shall be allowed as paid to Mr Edison, but compensation may be allowed at a fair and usual rate for actual services of Messrs. Batchelor, Johnson, and Upton, not exceeding such as is customarily paid by manufacturing establishments for sim-

B

12

10

lar services:

Tenth. It is hereby represented by the Lamp Company and the parties of the third and fourth parts that they have in good faith expended since the date of the agreement with Mr. Edison above referred to, the sum of \$ \_\_\_\_\_ in experimental work tending to improvements in the lamps and the method of manufacture thereof as the same existed at the date of the agreement, and it is conceded by the Light Company that such expenditures and all other expenditures for similar experiments to be made in the future are to be returned to Mr. Edison and his associates, or to the Lamp Company as the case may be, out of the business without decreasing the profit of five cents per lamp above fixed, and it is therefore in this respect agreed that all monies coming to the Light Company until it shall in that manner have repaid itself \$ \_\_\_\_\_ (being one-half) shall be retained by the Lamp Company.

All experiments which may be made by the Lamp Company under the direction of the Light Company shall be paid for by it, and all expenditures for experiments made by the Lamp Company without such order shall, as to the one-half thereof, be, from time to time, reimbursed to it out of net profits due to the Light Company on the manufacture of the lamps.

In determining under this article when the amount already expended by Mr. Edison and his associates has been repaid, and in determining the amount due for experiments hereafter to be made, account shall be taken of all <sup>wholesale to the Edison file</sup> sales, and the profit on each lamp thus sold over and above five cents per lamp shall be applied to the payment of such experimental expenses.

(Add clause as to arbitration.)

*This must be in all from date of starting lamp while some law in Nov 80*

*It is not done to be paid for to the Edison file*

*on 15th page sent to Mr. Edison*



2046

May 13

E. Lamp Co.

Handwritten notes and a vertical line on the page.

RECEIVED

10  
THE EDISON LAMP COMPANY,

Harrison, N. J. May 17 1882

Recd  
22 23  
4/18  
Lamb. I. Small Esq.  
Meads Park (N.S.).

In reply  
to yours of May 15.

We think it is better  
to wait before accepting  
Hampton's offer. He is a  
poor customer to deal with  
and his letter is slipping.

We also over <sup>him</sup> a bill  
in dispute of \$140 that he  
intends to collect when  
he buys.

Yours Truly  
Edison Lamp Co.  
R. M. H.

46  
THE EDISON LAMP COMPANY,

Harrison, N. J. May 19 1882

Thos. A. Edison Esq.  
Meads Park (N.J.).

Dear Sir:

In reply  
to Foreign Order No. 40.  
It is impossible to ship  
lamps immediately as you  
desire, for we cannot  
pick out high economy lamps  
until we have power.  
The high candle power  
lamps are not yet  
made.

Yours Truly  
Edison Lamp Co.  
R. M. H.

THE EDISON LAMP CO.,

no. 97-8  
Dear Mr. Edison:

RECEIVED

MAY 25 1882

INSURED

MAY 24 1882

FILE No. ....

Clarke has ordered 500 lamps for the testing room at Green St. He wants 97 and 98 volts. We have none of these ~~in~~ in stock. It seems to me a shame to put in our new lamps for such a use. The lamps are to be used for resistance only and any style or volts would answer, if some check method were employed for ascertaining the work. We have on hand at the Lamp Factory 1683 A lamps 111, 112 & 113 volts which would be excellent for the purpose required, testing machines. They are of sufficiently high volts to prevent any undue breakage when carrying full load and high volts. Clarke says that he can easily construct a low resistance shunt for measuring currents and having the lamps as a check he can tell ~~more~~ fully as well the

THE EDISON LAMP CO.,

Menlo Park, N. J. \_\_\_\_\_ 188

load with high volt lamps as with low volt.

If the lamp Co can get rid of their high volt lamps for some such purpose it would be a clear saving and profit, for they are not good enough for regular lighting purposes though exactly suited for the purpose proposed.

With a high resistance galvanometer to read the volts at the terminals of a machine, and a low resistance galvanometer shunted with a Bornion silver shunt of large surface and low resistance, the work a machine was doing could be told at a glance using a cross table of the two deflections. The eye could then check the readings by counting the lamps thus preventing any gross errors.

Yours Truly  
Francis R. Mather

10  
THE EDISON LAMP COMPANY,

Edison, N. J., May 27<sup>th</sup> 1882

Ans'd 29/82  
J. A. Edison Esq.  
Newark Park  
N. J.

Dear Sir,

About six months ago Mr Logan started to make Goldensmy and turning machine and carbon bridge for Canada factory. They are very anxious to get them. We have a letter from Col. Goddard relative to them. Will you please <sup>inform</sup> us how soon you expect to get them ready.

Yours truly  
Edison Lamp Co.

THE EDISON LAMP COMPANY,

RECEIVED  
JUN 1 1882

ANSWERED

31 788 2

J. A. Edison  
Newark Park  
N. J.

Dear Sir:

Maj. Eaton  
officially writes me  
for price on 32 candle  
and 100 candle power  
lamps.

The 32 candle power  
cost, say three cents  
more per lamp.<sup>80</sup>

The 100 candle power  
lamps are not yet  
completed in a manner  
that we can make  
them without further  
experiment.

Yours Truly,  
Francis D. Weston.

New York June 1882

My dear Mr. Edison,

A friend of mine wants fifty of your Lamps to make some experiment with an Electric Machine he has got. - He asked me to get them for him. - If you like to let him have fifty Water Light Lamps, I can pay you twenty five dollars for them. - If so please let me know when I can have the same. - Yours very truly  
Lusk D. Zimmerman

THE EDISON LAMP COMPANY,

NEW YORK

New York, N. Y. June 7 1882  
Prof. A. Edison Esq,  
Menlo Park N. J.

Dear Sir,

Below find prices we have charged on Lamps of special character. The Domestic and Foreign price is the same on special lamps.

|                   | Price  | Each |
|-------------------|--------|------|
| All colored lamps | \$1.25 | each |
| 3 Protected       | 1.75   | "    |
| 3 Candles         | 4.00   | "    |
| 4 " "             | 1.00   | "    |
| 4 Spiral          | 2.00   | "    |
| 4 Fram. battery   | 1.00   | "    |
| 8 Candles A       | 2.00   | "    |
| 82 " "            | 1.00   | "    |
| 75 " "            | 10.00  | "    |

Yours truly  
Edison Lamp Co.



THE EDISON LAMP COMPANY,

Harrison, N. J. June 8 1882

Chas. A. Edison Esq.  
Monte Park N.J.

Dear Sir

In placing  
order for tools with the  
Geo. Place machinery agency,  
we sold the engine at  
Monte Park for \$1000 f.o.b.  
to be held in good order  
until they find a customer  
to take it off their hands.

Yours Truly  
Edison Lamp Co.  
S. R. M.

THE EDISON LAMP CO.,

; Menlo Park, N. J., June 11 1882

Thos. A. Edison Esq.  
Menlo Park (N.J.)

Dear Sir:

We have stopped today in order to re-support our shafting. Mr. Bradley, worked all day yesterday and hopes to finish tomorrow morning. We find that the building vibrates very badly from the jar as the walls are not built heavy enough for such quick running shafting as we use. We shall support the entire shafting on a false floor and brace the whole very firmly.

We shall put the dummy engine for running the shafting to the mercury pumps in next Sunday and take out the Volney Mason friction clutch, and replace it with a plain pulley.

Holzer has brought the wages paid in the fabric room down to an extremely low figure so that the girls will earn about half what they did.

THE EDISON LAMP CO.,

Menlo Park, N. J., \_\_\_\_\_ 188

This will bring their weekly wages down to about \$4 to \$5 per week.

I spoke to you some time since about my loaning money to the Lamp Co. I enclose a statement of the amounts loaned. I feel exceedingly anxious to have our credit A. No. 1. and have advanced money on that account. If you decide to make an assessment I will pay my share from it in, otherwise I feel obliged to charge interest on the amount loaned calling it a call loan.

I have tried in every way to make the money go as far as possible remembering that we shall have a very large business in the future, and it is good economy to make provision for it.

Yours Truly  
Francis R. Upton.

Form No. 1

# THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assumed by the sender of the following message, transmission or delivery of Unrepeated Messages, by read the amount of tolls paid thereon, and in any case where the claim is not presented in writing within sixty days after sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. ECKERLY, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | REC'D BY | CHECK   |
|--------|---------|----------|---------|
| 2      | Ch      | W.L.     | to Paid |

Received at MT June 29<sup>th</sup> 1882.

Dated Newark N.J.

To \*Daniel Insull

Mundo Park

Shall go to Mundo

tomorrow if you are there answer

J. R. Upton.

\*Repeated

Form No. 1.

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THOS. T. BOKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECEIVED BY | CHECK   |
|--------|---------|-------------|---------|
| 2      | WU      | E           | 16 Paid |

Received at: Menlo Park Depot

Dated: Newark N.J. 5 - 7/5 1888

To: J. A. Edison

Prof. Paster writes me for  
 appointment to visit Lamp Factory  
 on Friday. Have you any instructions  
 you will be  
 telegraph me happy  
 show him personally through factory -

J. R. Mptau

THE EDISON LAMP CO.,

East Newark, N. J., July 6 1882

Thos. A. Edison Esq

Memo Park N.J.

Dear Mr. Edison:

Regarding the formation of Lamp Co. I have been to see Mr. Adams and he has taken all the needed memos. He says that the laws requires certificates issued for property to be stamped "Issued for Property only". Unless this is done the shares are assessible up to their par value and holders are responsible.

My idea is to issue a certain amount of stock to the present partners in the concern to ~~buy out their~~ <sup>at</sup> buy out their rights. Then after this to issue stock at par giving present members of concern first choice.

Regarding a different price for A and B Lamp

I think it would be advisable as es-

27

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

tabliking a precedent for other lamps.

We can make a B lamp <sup>3</sup> five cents cheaper than an A lamp and like to make them as they help out in the pump room to fill out up odd moments when there is not time to make A lamps. You could use this as a concession to acquire the  $\frac{1}{2}$  profit without change in price.

Regarding making higher resistance and greater economy lamps.

I am having a set of  $6 \times 9 \frac{1}{4}$  / 1000 made running from 5" to 8" by  $\frac{1}{2}$ " there will be 200 fibres in each ~~set~~ set. I shall have a careful test made of them and report to you. They will all be run with phosphorous tubes on them so as to lay drying for five days after coming off from pumps.

You know that these special lamps will entail an enormous expense.

## THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

on the Lamp Co. at the start until we can find a market for product in all covering all volts, and bring the breakage down.

600 hours life and 12 per H. P. is a big thing to do and we are the only ones that can touch it giving 320 Ohms as a resistance.

My idea is, that anyway for next central station, we will make a lamp requiring 140 volts while giving 16 candles and of as high economy as it is commercial to make.

If we were not so much behind on our orders I should not have tried to run on the days near the fourth.

As it is we have had hard work to make both ends meet, with the clerks hands and pieces.

The masons are making good headway with the foundation and promise to show a good deal of wall in a week's

J. A. E. 4

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

time. We have decided to put on a tin roof as the surest to get done in time.

15 I try to restrain expenditures, but the agency goes all the time. Every time I say yes, it cost on an average \$10 and my nose bring discontent.

20 Holzer is going to buy one of Queen's lamps that you mentioned. We can tell from the style when they were made. We do not see where the leak can be and suspect none. We shall organize a breakage department and require all broken lamps to be returned to it.

The with our lamp accounts every lamp must be accounted for.

Yours Truly  
Francis P. Weston

July 8 - 1882

J. W. Upton Esq  
Harrison N.J.

Dear Sir

Enclosed herewith  
please find new diagram  
with written explanation by  
L. L. Clarke Esq. showing the  
commercial advantages of high  
economy lamps under certain  
conditions.

Mr. Edison requests it to be  
sent you for criticism and  
any any additional suggestions  
you might find proper to  
make

Yours Truly  
L. P. Mott

52.11  
THE EDISON LAMP  
Harrison, N. J. July 17 1882

J. Edison Esq.  
Menlo Park N. J.

Dear Sir

We ship you  
32 Candle Lamps to  
Genova today -  
What charge shall  
we put on same

Yours truly  
Edison Lamp Co.

60 Cents for 32 Candles  
~~50~~  
Lamps

Form No. 1

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This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. ECKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | CLASS | DISPATCH | CHECK |
|--------|-------|----------|-------|
| 6      | R     | 6        | Paid  |

Received at Menlo Park Depot 7/20 1888

Direct Newark 10

To Thos Edison

Will you be at the Park  
Friday morning

F R Upton

~~away~~  
~~to~~  
M

THE EDISON LAMP CO.,

East Newark, N. J., July 21, 1882.

Thos. A. Edison Esq.  
Menlo Park N.J.

Dear Sir

Weighted fibres  
I have the record of the volts on  
one set and can see no change from  
regular. There were 200 in the order.

The resistance after carbonizing was  
the same as regular. We are going  
to run other sets through.

5" - 6 x 9 1/4 fibres

We tried several of these at 14 candles  
which is the increase that they must  
be run at to give 12 per H.P. of 16 can-  
dles each. They were a complete first  
time making an decent record. I am  
so desirous of making the new 140 volts  
central station lamp a success that  
I hope 12 per H.P. Yet it is almost  
beyond hope at present as we have  
no record to encourage us of such

What is the cause of irregular now?

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 1888

Only 32 candle  
faller bolts to be used  
we can get 3 10 candle  
of 8 candle

a lamp lasting.

# Village-Plant Lamps.

Mr. Moon told me that he would want 3000 \$, he said six candle, lamps in six weeks. We are running some of these <sup>10 candle</sup> lamps each day. Halper is having a thousand started under order number and an account kept in each department so that we shall be able to estimate closer on cost. None of the operations cost any more with a thin fibre than with a thick one, it is only the great shrinkage and the fact that the volts spread and there are a great many high lamps that makes them so expensive.

If you will give us some directions we will pair them off as we test them. The lot of old ones tested <sup>with</sup> a maximum of 106 volts.

I think it would be as well to run these lamps at the first village plant at seven or eight candles as

## THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

breakage is three times as apt to occur where three lamps are put in series. Any one of the three giving out extinguishes the rest. Then when a lamp breaks it may be any one of three ~~one~~ so that perhaps each will have to be tried before finding the trouble. Then 10 candles is the same inconsiderance as a 10 per H. P. lamp and this is considerable risky for isolated.

Regarding sockets.

Sometime ago a standard size was to be given us to make the rim of our sockets in accordance with. We have heard nothing regarding the matter lately.

Thistle Lamps

We are lucky to have some other promising substitute for them as we have had another piece of bad luck being 200 forms by melting

Old Luminase

Lawson reports that it is not working

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

as it should and has no reason to  
assign for it, as everything has been  
put in thorough repair.

Pump Room

Holzer has now put the men on piece  
work. 2 1/4 cts per lamp 1 3/4 cts. per  
B lamp. We expect to raise this price  
but as soon as we have made better  
provision for taking care of broken lamps.  
We guarantee the men as much a day  
and as much more as they can make.

The new pump has arrived and we  
have ordered the fittings to go with  
it. The lamps seem to be about regular  
so far as life goes though we are not  
back to old standards.

Platinum wire

We are now needing some more,  
having only a few weeks supply on  
hand. Johnson, Matthey quote us in  
Doo of lots the best price. It will  
take about \$~~2000~~<sup>3000</sup> cash down. Shall I order?

Should order of enough plat  
wire to get along as little until we  
get substituted.

J.A.E. 5

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188.

Small Drill Press

Bradley wants one. Shall I order one.  
Cost Lamp

I know that the lamps cost now more than they did at one spell at the Park. Yet I feel very sure that we shall make them cheaper than ever in a short time. We shall have more complete facilities for carbonizing and more pumps ready in a few weeks.

\* Machine

The Edison Machine Works charge us \$1,350 for machine \$1.25 each for brushes. Is that right price.

We run the machine with wild brushes and trim them once a week when we stop on Sunday. The commutator is like a mirror.

Our engine ran all last week and so far this week without stopping.

Yes same as to all others

J.A. 26

THE EDISON LAMP CO.,

100 West 11th Street, Newark, N.J., 1888

The bearing in the K machine is worn & still. We use the oil after stopping over and over again & don't allow it to flow freely.

10  
J.A.  
1888

Money } We need this badly

Yours Truly  
Francis R. Upton.

We have an offer from Morris Tasker to make two mercury pumps @ \$400 each if order is placed immediately. I should place the order at once -

Please have Francis dip several feet Carbon in Perosma for 1/2 hour then take out & dry even while the Wouds are hot & put in Perosma until ready for use then put in plate & run through

2 A.S. e

THE EDISON LAMP CO.

I think this will prevent  
Carbon from ~~adhering~~ <sup>forming</sup> water

~~expanding to do no harm~~  
~~to the lamp~~  
~~the vacuum~~  
with 3 papers

July 21/12  
10

Thomas A. Edison  
Edison Lamp Co.

We have an offer from  
London to make two  
@ \$100 each if order is placed in  
order of one

Please have someone dip several feet  
Carbon in benzene for 1 hour then  
take out & clean  
Plate the ends of box in benzene  
while the water is being removed  
water should be removed

THE EDISON LAMP CO.,

Ans  
27/11/82<sup>N</sup>  
East Newark, N. J., July 26. 1882

Thos. A. Edison Esq.

Meads Park N. J.

Dear Sir:

Marshall

is making out the duplicate curves for you and will send them to you shortly. The regular lamps are not showing good records and we cannot make any remarkable curves as when we first started.

The carbons appear to be regular and as far as anything I can see or learn of Lawson the process of making them is regular.

The pump room working is regular and also the lamps are thoroughly dried and heated before putting on the pumps. Holzer and I spend a good deal of time in the Pump Room and are not able to detect any marked change in methods.

THE EDISON LAMP CO.,

T. A. E. 3

East Newark, N. J., \_\_\_\_\_ 188

We have started to make the carbons for the English patent 4576. The cost will be probably \$5.00 each. It is almost impossible to make an estimate as the loss from breakage will be the main item of expense. Do ~~we~~ <sup>we</sup> saddle any particular candle power desired, or will a simple low incandescence be sufficient?

We ~~have~~ shall place order <sup>for mercury pump</sup> with Morris, Tacker & Co. as soon as we have heard from them regarding the gear wheel at top of pump.

In regard to ordering less than 500 oz of platinum. It will cost us ~~\$~~ <sup>£</sup> three shilling three pence more an oz. in 100 <sup>oz</sup> lots or 26 <sup>3</sup>/<sub>4</sub> in place of 24 <sup>3</sup>/<sub>4</sub>. The 500 oz. will last less than a year so that our economy will cost more than 10% interest.

We have not yet sent any 3<sup>rd</sup> candle lamps to England as yet

J. A. C. 3

THE EDISON LAMP CO.,

East Newark, N. J. \_\_\_\_\_ 188

We have not enough E. D. volts to make a reasonable shipment.

The last lot tested, cut  $7\frac{1}{4}$  by 27/1000 showed a maximum at 96 volts.

We are now cutting about 7 by 27/1000 and shall try to run from 50 to 75 kumps a day of this sort. There will probably run a maximum of from 102-104 volts.

Holzer has had some trouble with his glass blowers. Welch, our old cartographer, now with the American has been trying to get them from us. He succeeded in getting one and we had to raise the wages of the rest to keep them.

Bradley has blow pipe and annealers under way so that we can work in a number of new hands on long work and let the old men go and then bring prices back. Holzer says he can work girls on all operations.

T. A. 24

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

in glass blowing.

We are making separate chimneys for  
the carbonizing furnaces. On examination  
we find that the chimney we had on  
the new style furnace has cracked  
badly indeed. Then we thought  
what we would make the chimney apart  
from the furnace and large end  
strong so that when the furnace needed  
repairs we should not have to twist  
the chimney.

We expect you here any day according  
to your promise to come soon.

I shall go to the Park on Friday morning  
unless I hear from you.

Yours Truly  
Francis R. Upton.

THE EDISON LAMP COMPANY,

Harrison, N. J., July 25, 1882

Saml. Insull Esq.  
Minto Park N.Y.  
Dear Sir:

Mr. Edlin  
and yesterday that you  
were making arrangements to  
get us some money. We  
want some the first  
of next week sure as there  
are several June bills that are  
growing troublesome.

We shall make a large  
shipment on Monday to  
various foreign points and  
will send you letter invoices  
Tuesday evening. We shall  
send them to N.Y. by train.

We shall depend on getting  
some money on Monday

5832 photo  
THE EDISON LAMP COMPANY,

Harrison, N. J., \_\_\_\_\_ 1882

from you at least \$5000.

The new carbonizing fac-  
tory building and furnaces  
are costing about \$7500 and  
this is largely short time  
bills.

I should like to see  
you and talk prospects  
a few minutes.

Yours Truly  
Francis R. Upton.

10  
THE EDISON LAMP COMPANY,

Edison, N. J., July 25, 1888

Thos. A. Edison  
Menlo Park N.J.

Dear Sir:

We would like to have you send us the old alternating or reversing switch ~~to~~ with the small motor to run it if you can spare it.

Yours Truly  
Edison Lamp Co  
PKU

What do you want to use it for? Perhaps I can give you something else that will do as well.

THE EDISON LAMP CO.,

East Newark, N. J., July 27 1882

Mrs. A. Edison Menlo Park, N. J.

Dear Sir:

We have the arrangement for giving distilled water for working bulbs.

The patterns for trough covers are at the foundry.

Lawsen has gone to the Park to see about carbon forms. The last lot have worked and blistered some.

The order from old nickel forms has made the best record for some weeks over 600 minutes. Holzer has a memo. from Lawson July 12 saying that the nickel was not working well. I have tried to find out from Wharton once whether nickel varied and received answer that they made all the same quality.

The carbons treated with benzene stated O. K. and are now going through.

Holzer has taken the weighing of carbons in his charge.

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

The orders with salt account about  
regular. There was some slight increase  
~~before~~ past few days but no more  
than one regular varies from another.

10  
9  
I am going to have some more an-  
nually furnaces built so that the glass  
tubes can be given a longer time to cool.

Yours Truly  
Francis R. Upton.

37

July 31, 1882

Prof Richards  
Wentworth

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Georgetown Coll. D.C.,  
July 31<sup>st</sup> 1882

Mr. Thomas J. Edison,

Dear Sir,

I am in need,  
for use in experiments on  
electric lighting, of half a  
dozen horse shoe carbon fibres,  
such as are employed in  
your lamp. It may seem  
somewhat strange that I  
should apply to you for  
them, as I can claim no  
acquaintance with you except  
by that reputation which has  
spread over the entire civi-  
lized world, and as, moreover,  
any successful invention in  
this line must necessarily

assume the attitude of rivalry  
with your own admirable  
discoveries. My only excuse  
must be that I have heard  
that you are always  
ready to give such things  
for purposes of experiment,  
preferring, no doubt, the progress  
of science to your own  
personal advantage. If you  
will be so kind as to give  
orders for these to be sent  
to my address, I shall of  
course be glad to pay the  
company for whatever they  
may consider to be their  
value, as well as any expense  
incurred in transmitting.

Yours very respectfully,  
J. Habers Richardt, S. J.  
Prof. Physics

70  
Do you want the  
Plyer carbonizer or  
not and would you  
care to have some  
lamps as well. If  
so I shall be glad to  
send them

*File*  
THE EDISON LAMP COMPANY,

Harrison, N. J., July 31, 1882

Thos. A. Edison Agent  
Mills Park N. J.

Dear Sir:

Regarding  
order sixty two from  
Batheloh.

We telegraphed Corning  
to hurry on receipt of  
order and ordered 1000  
lbs. extra of tubing. They  
only shipped 550 lbs.  
on 1500 lbs. ordered three  
weeks ago. We did not  
dare to ship Batheloh from  
this as it would run us  
short, and telegraphed Corning again.

We shipped bulbs today  
and shall have tubing to-  
morrow morning early.

*24*  
THE EDISON LAMP COMPANY,

*5816*  
Harrison, N. J., \_\_\_\_\_ 1882

and ship at once.

We re-estimated the order  
that we might send  
the four boxes of bulbs  
by wagon to New York.

They may reach Batheloh  
at a different time from  
the tubing but the chances  
are that they will be in  
Paris first starting first.

Yours Truly,  
Francis R. Upton

THE EDISON LAMP COMPANY,

Harrison, N. J. *July* 31. 1882

Thos. A. Edison Esq.  
Munro Park  
N. J.

Dear Mr. Edison - of Good Luck  
You were  
here I know very  
well.

There was no change  
made in Edison's lamps  
on Thursday night lamps,  
yet they were the best  
we have made for several  
weeks.

I have read that the  
Rothchilds believe in luck,  
and appoint for their agents  
men that are reputed lucky.

Your luck is almost  
impossible to ~~obtain~~ <sup>obtain</sup> ~~obtain~~ <sup>obtain</sup> ~~obtain~~ <sup>obtain</sup>  
strange that your men

THE EDISON LAMP COMPANY,

58.16 *11/10*

Harrison, N. J. 1882

*5/11/10*  
I ~~can~~ <sup>can</sup> change the  
run of lamps.

I will give you a tes-  
timonial with particulars  
recommending you to the  
Rothchilds, and advise that  
you have luck.

Yours Truly  
Francis R. Weston

Parvite Light Co  
ask them instruct  
lamp Co to

Send to Prof J Henry Richards  
Georgetown College

6 carbonized fibres for 6 lamps  
3 in A lamps  
3 in B lamps  
free of charge.

Acknowledge receipt of same  
Richardson  
Georgetown College, D.C.  
August 3<sup>rd</sup> 1882.  
Mr. J. B. Edison,  
Dear Sir,

Your letter received. I wish the fibres carbonized, and I shall be delighted to obtain also a couple of the completed lamps, as you kindly suggest. I desire to thank you very sincerely for your courteous response to what must have seemed a somewhat bold request.

Yours most truly,  
J. Navens Richards,  
S. J.

THE EDISON LAMP COMPANY

582

*W.D.*  
*W.D. Edison*

~~August 3, 1882~~

*Windsor Park N.Y.*  
*Dear Sir:*

The covering  
switch referred to was  
wanted for working lamps  
on the pumps on testing  
life of carbons, we could  
fix it here if it is out  
of repair.

*Yours Truly*  
*Edison Lamp Co.*  
*W.D.*

Vertical Letter No. 10

THE EDISON LAMP CO.,

East Newark, N. J., August 5, 1882

Thos. A. Edison Esq.  
Menlo Park N. J.

Dear Sir:

We have a large lot of kerosene carbons under way. The test on 20 showed remarkable results. I think this is a discovery.

The regular lamps are showing a better record, and yesterday's test was very good. Piece work in the pump room is bringing off good runs and the lamps appear to be all right.

We expect to show 4500 lamps made this week.

Marshall has tried several experiments with darkened globes before lamps in the photometer. His results do not agree with yours as they show large absorption.

He will make a very full test and settle this point. The same globes

L.H. 2

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

will be used to put over carbons that have been tested in other globes to see the loss of candle power.

Lawson is baking the carbon forms today.

We have shipped you gauge this P.M. I hope it will arrive all right.

In using it you will remember that air bubbles are the great difficulty next with in long continued readings, such as an absorption experiment. Too much care can scarcely be taken, in this particular, to free the long column from air bubbles.

Yours Truly  
Francis R. Upton.

THE EDISON LAMP COMPANY,

Edison, N. J., Aug. 7, 1882

I have A. Edison Esq.  
Munko Park N. J.

Dear Sir:

We find that the small weights for carbon forms break easily. I would want you to make about twice as many weights as forms.

Yours Truly  
Edison Lamp Co.  
L. R. Upton

THE EDISON LAMP COMPANY,

Edison, N. J., Aug. 7, 1882

Saml. Jewell Esq.  
Munko Park N. J.

Dear Sir:

I have sent Mr. Batchelder ~~some~~ <sup>several</sup> ~~boxes~~ <sup>boxes</sup> of fibres for 10 & 32 candle lamps.

We shall ship two boxes of fibres on 100000 this P. M.

We need money all the time. Coming want \$2393.  $\frac{81}{100}$  today by Saturday. Can you help us?

Yours Truly  
Francis R. Upton

**THE WESTERN UNION TELEGRAPH COMPANY.**

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This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. ECKERT, General Manager.

MORVIN GREEN, President.

| NUMBER                                                                      | SENT BY | RECD BY | CHECK |
|-----------------------------------------------------------------------------|---------|---------|-------|
| 1                                                                           | Wm. E.  | 10 Paid |       |
| Received at <u>Menlo Park Depot</u> <span style="float: right;">1882</span> |         |         |       |
| Dated <u>Newark N.J. 11</u> <span style="float: right;">Aug 11 1882</span>  |         |         |       |
| To <u>Sam'l Lubell</u> <span style="float: right;">749 Aug</span>           |         |         |       |
| <u>N.P.</u>                                                                 |         |         |       |
| <u>Will go to Menlo this morning</u>                                        |         |         |       |
| <u>on the ten seventeen train</u>                                           |         |         |       |
| <u>D. R. Upston</u>                                                         |         |         |       |

10  
THE EDISON LAMP COMPANY,

Harrison, N. J., Aug 17 1882

Thos. A. Edison Esq.  
Menlo Park N. J.

Dear Sir:

We send  
by bearer new mould  
for carbon forms.

We send old piece for  
forming the inside. We are  
at work on a new one,  
and will then send for  
mould to fit it to.

We lost one that was  
nearly finished by the cutter  
in shape shipping

I shall go to Menlo Park  
tomorrow Friday morning  
as usual and will then report.

Yours Truly  
Francis P. Upston.

THE EDISON LAMP COMPANY,

Harrison, N. J., Aug. 21, 1882

Thos. A. Edison Esq.  
Newark Park. N. J.

Dear Sir:

We have just tried 10 candles  
A lamps at 32 candles,  
carbons from carbon forms,  
and the orders went all  
to pieces. It is a great  
disappointment. We shall  
try some more tomorrow.

Lawson is going to see  
some with special care.

Holger and Saxelby have  
been looking after the  
lamps in the pump room.

Regarding lamps for  
competing plants in England.

I wish you would

THE EDISON LAMP COMPANY,

Harrison, N. J., 1882

take B lamps to meet  
shown with. They are  
profitable to manufacture  
and give good life.

If you want a special  
lamp you entail on us  
a great expense and  
a corresponding delay.

The B lamp is larger  
than Swans and has a  
higher resistance so gives  
you every chance in com-  
peting. The lamp is  
under very heavy expense  
at present and new styles  
will more than take up the  
profits.

Yours Truly  
Francis R. Upton

10  
THE EDISON LAMP COMPANY,

Harrison, N. J., Aug. 22 1882

Paul. Insell Esq.  
Minto Park N. J.

Dear Sir:

I would  
thank you to return the  
sheet of estimated cost  
of lamps that was given  
you when the contract  
was taken up. We will  
return you it after getting  
a copy of it.

Yours Truly  
Francis R. Webster

THE EDISON LAMP CO.,

Edison Works, N. J., Aug 23 1882

Thos. A. Edison Menlo Park, N. J.

Dear Sir:

Lawson has  
a run out today of 5"  $9\frac{1}{4}$ " from  
double covers. He thinks they will be  
fine, we will rush them through. We are  
very anxious about this lamp as we know  
its great value. Running these lamps  
increases our expense greatly, for example  
Lawson gets only 240 castons at a heat from  
the new furnaces, using small moulds and  
second covers over them, the interstice being  
filled with plumbago.

Regarding policy of running the factory.  
I am now making provision in every  
department for large increase. Our work  
now has settled in certain lines so  
far that I feel assured that the  
tools we now use will continue to be  
used. As it is much cheaper to make  
several of a kind than two or three

J. A. E. 2

THE EDISON LAMP CO.,

East Newark, N. J., ..... 1888

I have instructed Mr. Bradley to make  
Full set of tools for glass department.

100 blow-pipes complete

18 annealer for seals

24 " " inside parts

2 tub punching machines

For socket room

We have 12 soldering machines

12 turning " "

Making another table of socketing machines.

For pump room

We are fixing up all fine axes.

Have ordered material for the entire  
room. 352 wire resistance boxes

450 mercury cocks

250 lamp resistance boxes

The new mercury pump is in place  
and Wilby lacks pipe connections.

Have order 6 new heaters and

1 box for drying

2 mercury pumps

L. A. E. 3

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

For fibre cutting Room.

Burnings has under way almost done

2 5" finishing moulds

1 5" roughing "

2 6 1/2" finishing "

1 6 1/2" roughing "

2 8" finishing "

1 8" roughing "

Bradley is making 24 Mues

12 moulds

Carbonizing Room

2500 carbon forms under way

1 furnace awaiting built similar to those used by Wharton.

We have four furnaces in operation and building room for nine more.

Power Engines, boilers and dynamo sufficient for the entire present pump room if we can run B's.

Testing Room.

This is ready for 3500 Amps a day.

## THE EDISON LAMP CO.,

East Newark, N. J., 188

Plating The expense of fitting this room is  
 light for almost double our present  
 needs, and we have rubber cords  
 on hand, which would take us some  
 weeks to get if we had not ordered  
 them.

Inside parts clamping &c

There will be no troubles in this  
 respect, as very few tools are required.

In taking this place I understand  
 that the definite policy of this company  
 is to be ready for any demand. In  
 carrying out this policy I think it is  
 wise to work our machine shop full  
 until we have a full set of tools in  
 each department. My experience is that  
 idle help is far more expensive than  
 idle tools, and when we have buildings  
 and bench room for a large number  
 of tools it is good economy to place

L.A.E., 5

THE EDISON LAMP CO.,

East Newark, N. J., ..... 188

the tool in position ahead of actual needs rather than make one or two at a time as they are needed, when the tools are all of a special nature that cannot be brought on the market.

You also understand that this policy means present expense, yet it is the only way we can prepare for a future demand, for we must have tools and they can only be made economically by laying out the work, having all the stock and contracting them<sup>out</sup>. Bradley is contracting all our work out to the men, and can only do as in later, so that I have given him the orders spoken of.

He also believes in running a machine shop with lots of work in sight of the men and hurrying them, instead of dribbling the work along by 25 or 50 at a time.

I write this in full that you

T.A. 2. 6

THE EDISON LAMP CO.,

East Newark, N. J. \_\_\_\_\_ 188

may understand why we keep up so heavy an expense.

Regarding competition in England.

I have thought over the matter very carefully as prospects there are of vital interest to me. If you make a cheap machine, why not use regular 8X17. B lamps, taking a range of 10 volts <sup>for various installations</sup> and run the business? We can make money on B lamps @ 40.cts. as they go by, the two tough places cheaply, carbonizing and the pump room, and then the fibres only cost  $\frac{2}{3}$  of A fibres.

If you make a special longer lamp for this use you add in every way to expense. We will have to get new fibre cutting moulds, and can only cut one fibre at a time making cost of fibre same as A. We should have to ~~cost~~ either carbonize in a new special form or put only one

L.A.E. 7

THE EDISON LAMP CO.,

East Newark, N. J., ..... 1888

fibres in one of present forms. Then in the pump room they will not come through as fast.

You can run 8X17 to ten or twelve candles without making them of very short life, and for competing with Swan I think they will exactly meet the market. Just get us an order for 50000 B lamps for competition @ 40 cts. and see if we do not make money on it; anyway we will knock Swan under.

I always thought the Western Union was level headed when they went into competition with anyone, it meant death or compromise. If England says the same, when will Swan be independent of patents in two years?

Yours Truly  
Francis R. Upton.

THE EDISON LAMP COMPANY,

P. S.

Harrison, N. J., \_\_\_\_\_ 188

Lumiere has just had some  
new run inscribed 5" 6 1/2 x 9 1/4

480 Ohms

465

442

442

which is exceedingly low.

They inspected all right.

61 They will be tested tomorrow  
what report will be sent

Yours  
J. R.

J. R.

## THE EDISON LAMP COMPANY,

Harrison, N. J. Aug 24 1882

Thos. A. Edison Esq  
 2. Newark Park N.J.

Dear Sir:

You said  
 you would arrange with  
 England about an exhi-  
 bition of lamps, where  
 life and economy were  
 wanted. The lamps will  
 gladly test lamps for  
 this purpose so that any  
 competitor will be beaten.

Yours Truly  
 Francis R. Weston

Write white if they intend  
 making exhibition this winter  
 at Crystal Palace as we  
 can furnish a lot of lamps  
 that will bring us out ahead  
 in that line test for economy & life

29

Aug 28. 82

Richards

Georgetown College, D.C.,  
August 28<sup>th</sup> 1882.

Wednesday  
Aug 31, 1882

Mr. Thomas A. Edison,  
Dear Sir,

I have just received, on my return from a two weeks vacation, a box from you containing a dozen lamps and a dozen fibres. It arrived at the college during my absence, which explained my apparent delay in notifying you of its receipt.

I hope that I shall sometime have an opportunity to see you and express by word of mouth the acknowledgments

P.S.

and  
of your courtesy which  
can ~~be~~ <sup>be</sup> inadequately made  
in writing.

Yours most truly,  
J. Marcus Richards,  
S. J.

*Curry*  
*12/21/82*

Office of  
S. B. Benjamin,  
Inventor and Proprietor of  
Chemical and Physical Apparatus,  
Hess' Chemicals, *Aug 27 1882*  
New York, *Aug 29<sup>th</sup> 1882*  
Nos. 6, Barclay and 12, Nassau Streets,

*Mr. T. A. Edison*  
*Menlo Park*  
*N. J.*

Dear Sir  
Can you give me  
a quotation on 100 lbs.  
Phosphoric anhydride?  
You promised to let me  
know some time since,  
but it has probably escaped  
your memory.

*Yours truly*  
S. B. Benjamin  
*Benjamin*

I asked our Lamp Company  
people for quotation but they  
replied that they had trouble  
enough to make their own  
without going into the manufacture  
of the wickless compound

10  
THE EDISON LAMP COMPANY,  
Harrison, N. J. *Sept 1<sup>nd</sup> 1882*  
*Thomas Edison Esq.*  
*Menlo Park*  
*N. J.*  
Dear Sir -  
We received a  
note from Mr. Lepton  
saying his daughter  
was better and he  
expected to return on  
Tuesday *8<sup>th</sup> inst* -  
Yours truly  
Edison Lamp Co.

THE EDISON LAMP COMPANY,

Harrison, N. J., Sept. 5 1882

Thos. A. Edison Esq  
Menlo Park N.J.

Dear Sir:

Drawings  
of <sup>our</sup> furnace and photo.  
room ~~has~~ been sent  
to Mr. Batester, before your  
letter came.

Your note regarding  
5000 A and 5000 B lamps  
for Italy received. I shall  
send the vols below the  
Wg. vols and take care  
that they are all 8X13/2  
carbons.

Yours Truly  
Francis R. Nippon-

THE EDISON LAMP COMPANY,

Harrison, N. J., Sept. 14 1882

Saml. Swall, Esq.  
Menlo Park, N.J.

Dear Sir:

I saw  
Mr. Lowrey this A. M. and  
he said he was all ready  
to go on with contract.

We can get 40 cts. a  
lamp as soon as contract is  
properly signed. Regarding  
lamps already made I  
think a charge should be  
inserted giving the lamp  
Co. 5 cts. more on all  
lamps already billed.

Yours Truly  
Francis R. Nippon-

10  
THE EDISON LAMP COMPANY,

Edison, N. J. Sept 27, 1882

W  
L. H. A. Edison, Esq.  
65 Fifth Ave.

My dear Sir:

The Eng-  
lish patent models for  
spiral lamps are finished.  
Shall we ship them?

Yours truly  
Edison Lamp Co.

Memo

answered verbally

Dear Mr. Edison

We have shut down in the pump-room until next Thursday morning.

The weather is so wet that I think it well to make changes now in some connections, as the lamps are poor.

Lansom A. No. 1 was very fine but nothing like orders that he has made.

We shall change style of pump while carrying of. We found that the Hog is shattered up into many lumps on present style carrying and

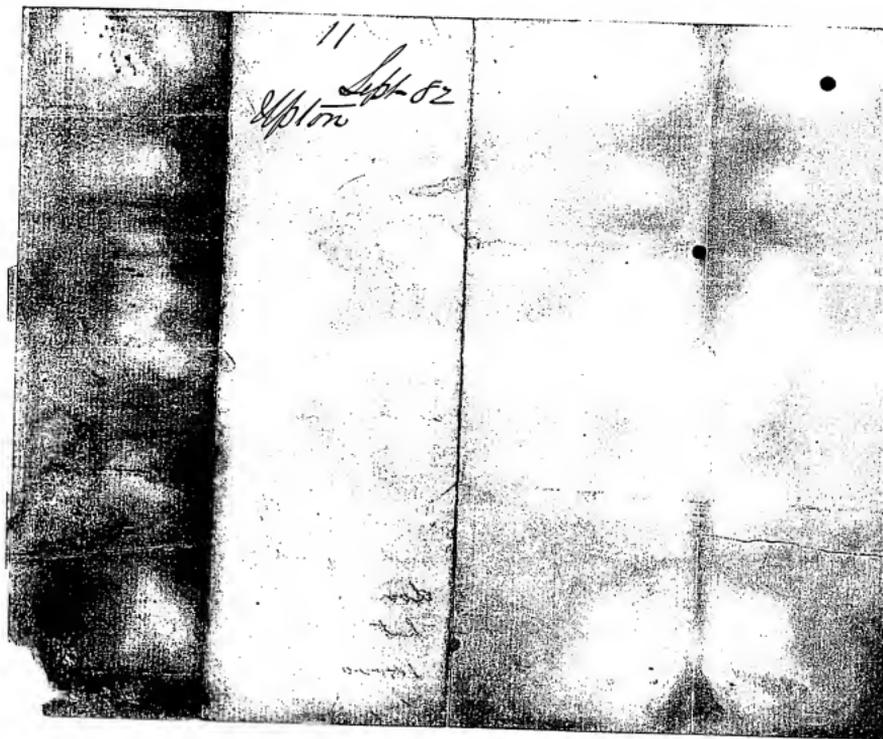
The new style is with a straight fall. It works very quick.

After Camp have better regulars and  
there was not an arc among them.

We ran 1300 on ~~the~~ Thursday  
free running. Regulars poor course  
from them but no worse than we  
have been making.

Holger is better. Linsimane  
is sick. Bradley thinks he  
is going to be.

Truly  
Francis T. Weston.



11

Sept 52  
Sept 52

THE EDISON LAMP CO.,

East Newark, N. J., Oct. 4 1882

Dear Mr. Edison:

I have examined the principles of Mr. Benches's <sup>idea</sup> Rousherville's mercury pump.

I think the pump will work and <sup>that it</sup> embodies a new and patentable idea. That it will produce a vacuum cheaper than the present pump is to me, however, very doubtful.

Yours Truly  
Francis R. Rafter

206 West 14th St

//  
THE EDISON LAMP COMPANY,

Harrison, N. J., Oct 5<sup>th</sup> 1882

Paul Duval Esq.

#65 8<sup>th</sup> Ave  
New York

Dear Sir -

Your inquiry  
by telephone today was  
received. We quote  
you prices as follows,  
10 C.P. Lamps .60 cash  
32 " " " .60 "  
50 " " " \$1.50 "  
100 " " " \$2.50 "

We have not made  
enough of 50 + 100 C.P.  
Lamps to know just what  
they can be made for  
but think after we manu-  
facture several hundred we  
can make them cheaper  
Yours truly Edison Lamp Co.

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRESIDENT,  
AND J. L. SPENCER,  
TREASURER.

EAST NEWARK, Oct. 18 1882

Saml. Innull Esq;  
65 Fifth Ave. N.Y. City.

Dear Sir:

I have written Logan to discontinue all work on carbon forms as soon as he has made 500 more large forms. We shall make the weights here.

I was at Menlo Park yesterday. If Mr. Edison allows any work at all there the bills will come in for expense. If he has a little work to do on the railroad he can have it done for cheaper in N.Y. including freight or express.

The expense account at

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
-PRESIDENT-  
FRANCIS R. UPTON,  
-TREASURER-

EAST NEWARK, ..... 188

Mills Park should be a watch-  
man. If anything is being  
done there will be laborers  
fireman, foreman, awesper  
Dore Carman, Paul Van Cleef  
etc.

You should tell John O.A.  
that Edison is in a frightful  
hurry for his apparatus and  
that he should work day  
and night to get it. There  
is a decided tendency to picnic  
showing itself there.

I would give a contract  
to have every thing packed  
and put on the cars to some-  
one and then stop all other  
work.

Yours Truly  
Francis R. Upton.

EAST NEWARK, Oct. 19 1882

W. H. P.  
 Thos. A. Edison Esq  
 65 Fifth Ave

My City  
 Dear Sir:

The blue on  
 the lamp always appears  
 at the positive pole.

The blackening of  
 the wire always occurs  
 at the negative pole.

Lewison will test the  
 black substance. We sent  
 you 80 inside parts that  
 showed much blackening  
 of the wires.

Regulars are poor. We are  
 running slower on the pumps  
 and making several orders.

EAST NEWARK, 1882

I think ~~now~~ the testing  
 current has something to do  
 with curves. We shall  
 run four .55 machines  
 next week and then shall  
 have even current.

Yours Truly  
 Francis R. Upton.

## EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRESIDENT,  
FRANCIS H. UPTON,  
TREASURER.

RECEIVED  
OCT 21 1882  
ANSWERED

Oct. 21, 1882

Thos. A. Edison, Esq.  
65 Fifth Ave. N.Y. City

Dear Sir:

We owe the following amount  
that should be paid

On coming Glass Works

We owe \$7815 should pay \$3,000.

Consolidated Fruit Jar Co. 747.

This must be paid in order  
to get new screws and capstools.

Monie County Savings bank 700.

Bergmann

We owe \$2,000 should pay 1250.

Taxes 700.

Peter Boyle, Mason 736.

Dixon Corsette Co. 687.

\$ 8,020

If we can get this money  
we shall be able to

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRESIDENT,  
FRANCIS H. UPTON,  
TREASURER.

EAST NEWARK, \_\_\_\_\_ 188

go until Jan. 1883,  
without asking for more,  
and if Mr. Bailey sends  
us a good order it is  
my deliberate judgement  
that we shall turn the  
corner.

Everything is now in working  
order and we are back to  
about the same per cent of  
breakage as the best at Mend  
Park and our runs are large.

The orders from the Isolated  
Co. keep coming in freely  
and the Pullen order will  
soon bring us money.

I have taken the greatest  
pains to keep our credit in

EDISON LAMP COMPANY.

EDISON LAMP COMPANY,  
127 N. 2ND ST., PHILADELPHIA,  
PA.

EAST NEWARK, \_\_\_\_\_ 188

the best possible shape, and  
now that the tide is turning  
I want to keep in good  
condition.

(Yours Truly)  
Francis R. Npton.

## EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRESIDENT,  
GENERAL OFFICE,  
25 N. 5TH ST.,  
PHILADELPHIA, PA.

RECEIVED

OCT 23

EAST NEWARK,

Oct. 23 1882

OCT 23 1882

ANSWERED

Dear Mr. Edison:

FILE No. 1183

The paper

loop  $\bigcirc$  you gave me  
the other day measures

$$4\frac{1}{2}'' \frac{5 \times 33\frac{1}{2}}{1000} = .173 \text{ in.}$$

$$\text{Or } 6'' \frac{8 \times 17}{100} = .150 \text{ in.}$$

If they have the same surface  
proportionally after carbonizing,  
they when giving 16 candles  
will have the same incandes-  
cence as ours when giving 13.3  
candles, or at the rate of  
12.4 candles per H.P. of current.

This will give 7.7 per horse power  
of sixteen candles.  
Any building up will add sur-  
face and decrease the economy.

Yours Truly,  
Francis R. Upston.

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRESIDENT.  
EDISON & SON,  
SECRETARIES.

RECEIVED  
OCT 25 1892  
ANSWER

1882-10-27

Oct 27 1892

7  
Paul Inoué  
65 7<sup>th</sup> Ave.  
New York City.

Dear Sir:

I have enquired regarding carbon forms sent you Batchelor. They were packed with paraffin between them and sent by letter post. We shall pack those we are now to send in wooden boxes with cotton wool.

Regarding price of forms I shall go to Menlo Park and find out what can be done. Are you sure that Mr. Batchelor desires 10,000 of the large ones, they are only used if

Lamps of high candle power,  
We find 750 enough for  
us.

Regarding the enclosed letter  
from Mr. Wallace.

We have already shipped  
the 100 lamps referred to  
and changed them to 2-light  
Co. We do not know Mr.  
Wallace and all the corre-  
spondence is in your hands,  
we therefore think that you  
should settle the matter.

We suggest that you  
have Mr. Goddard give  
you the bill of to Mr. Wallace's  
at \$1.00 each which you  
can send to Mr. Wallace  
asking for credit on account

1882-10-27

and then pay Mr. Goddard  
\$100.

We will pay for you the  
full face of your statement  
for carbon forms.

Yours Truly

Francis R. Upton

THE EDISON LAMP COMPANY,  
OCT 30 1882  
ANSWERED

Harrison, N. J., Oct 28 1882

FILE No.

J. A. Edison Esqs

Dear Sir,

One of the lamps washed with zinc chloride had a nasty hugging blue at clamp when set up but which disappeared after 10 minutes. Another had a blue halo at clamp which gradually filled the bulb & then disappeared inside of ten minutes.

Those washed with viscous phosphoric all had a nasty hugging blue at clamp.

There were two lamps washed with potash. The bulbs were coated on

THE EDISON LAMP COMPANY,

Harrison, N. J., 788

the inside with a network of crystals. One lamp broke almost immediately & the other played down in candle power to 8 or 10 in about 15 minutes & broke in half an hour.

There was nothing noticeable about any of the other washed bulbs.

The blacking in all seemed to be about regular.

Yours truly  
J. T. Marshall

THE EDISON LAMP COMPANY,

RECEIVED NOV 2<sup>nd</sup> 1882

NOV 3 1882

J. Edison  
#65 Fifth St. New York

Dear Sir -

Will you have any objections to my having a line run from the office to my boarding house (which is only a short distance about 75 yds) to supply two A lamps I will stand all expense - Mr Upton has given his permission  
Yours very truly  
Philip S. Dyer

EDISON LAMP COMPANY.

THOMAS A. EDISON, PROP.  
FRANCIS R. UPTON, TREAS.

RECEIVED  
NOV 8 1882  
ANSWERED

32

Nov 7 1882  
Saml. Dyer Esq  
65 Fifth Ave.  
New York  
Dear Sir

The best estimate I can reach regarding carbon forms is that a fair price in lots of 10,000 would be ten cts. each including two complete sets of weights to each form.

Yours Truly  
Francis R. Upton

We would undertake to make 20,000 at this price.

F.R.U.

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRES.  
FRANCIS R. UPTON,  
TREAS.

11  
Upstg  
Nov. 16 1882  
EAST NEWARK,

Dear Mr. Edison:

For about  
ten days we have been  
mixing the new isolated lamps  
with the lamps of higher com-  
ony, about  $\frac{1}{3}$  isolated.

I have notified Mr. Hastings  
that we have made arrange-  
ments to ship nearly all  
isolated lamps especially on  
the lower volts.

We are trying experiments  
constantly in every department  
to see if we can find the  
trouble. I think it is in the  
carbonizing and Lawson is going  
to try ~~it~~ again. He has  
never hit as ~~he~~ he should  
since.

Yours Truly,  
Francis R. Upton.

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRES.  
FRANCIS R. UPTON,  
TREAS.

Nov. 18 1882  
EAST NEWARK,

Dear Mr. Edison:

Order 97 was  
not run through with Michel  
forms. Lawson is now trying  
to duplicate the orders that he  
then made.

There is a slight improvement  
in regulars. Dyer has taken  
you the curves. Willow fibres  
do not show much life  
five minutes, though they were  
not blue when giving eight cur-  
des. The new coal has not  
yet been suitable over here  
we expect to get it Monday.

I have ordered 200 tons of bedst  
coal for our boilers to come by  
water. Can save 20 cts. per ton  
this way, and get better coal.

Yours Truly,  
Francis R. Upton.

EAST NEWARK, Nov. 21, 1882

*Gilley*  
 J. Small Esq.  
 65 Fifth Ave. N.Y. City

Dear Sir:

The Morris  
 County Savings Bank will  
 not give us any more,  
 they say they have all they  
 can afford to place on one  
 place. Burnett is looking  
 round for us, he thinks he  
 can get \$10,000.

We shall depend on you  
 to give us \$2,000 by next  
 Monday. we shall ship  
 enough lamps to Hamburg  
 and Antwerp before Saturday  
 to make this amount.

The Parent Co. are dead broke

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRESIDENT,  
FRANK B. LUTON,  
SECRETARY,  
NEWARK, N. J.

EAST NEWARK, \_\_\_\_\_ 188

financially and cannot give  
 us any money.

We have all our drafts  
 paid by the Insulated Co. and  
 all their orders filled.

We are aiming for 10,000  
 completed lamps a week and  
 this takes a large amount  
 of money for each pay roll,  
 between \$1,800 & 2,000, of  
 which about \$300 to \$500 goes  
 to machinery tools and  
 buildings & fixtures.

*Jacob Small*  
 Francis W. Weston.

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRES.  
FRANK R. LITTON,  
TREAS.

11.  
W. J. ...  
Dec 13 1882  
EAST NEWARK, N. J.

My dear Mr. Edison:

Regarding  
finances at the Lamp Factory.  
I have tried hard to raise  
\$10,000 in Newark without suc-  
cess. If this were a stock  
Co. the case would be very  
different as then our paper  
given in security would be  
double named.

The contract between the Edison  
Light Co. should be fixed  
before Jan. 1 as then we  
can start our new books  
and with new balances  
begin business.

The various Cos in this  
country will by that time  
owe us about \$2500 or

EDISON LAMP COMPANY.

THOMAS A. EDISON,  
PRES.  
FRANK R. LITTON,  
TREAS.

E. 2  
EAST NEWARK, N. J. 1882

the five cent rule.

The Isolated Cos. is going  
to put in a very large order  
about Jan. 15 and unless we  
have the contract fixed it  
will be very hard work to  
make them give us any money  
in the future.

Pay not settling the matter  
they are now having a very  
large surplus account and  
the longer it runs the worse  
for us.

I want also to have  
Lawson and Howell come in  
in the new stock Co. as agents.

We are making an enormous  
amount of money by delay  
as the longer the matter

E. 3

is in response the harder  
it will be to fix.

Then now that our business  
is growing profitable their  
quest will be excited and  
we shall be at their mercy.

The matter has been known  
a year and a half and  
but little progress made,  
for the various agreements are  
not yet out of the committee's  
hands.

You know that under the old  
contract all save you in the  
present partnership have no rights.

Anyway cannot a working agree-  
ment be reached by your! so  
that we can form a stock Co.  
and have 40 cts for our lamps.

With the money now

E. 4

done us for the five cents  
advance and getting forty  
cents for the lamps we shall  
sell, I am now sure that  
we can hold our own without  
calling in any more money.

Yet unless we can borrow  
some ~~more~~ outside money  
you cannot depend on us  
to repay you the \$6000 that  
you put into the real estate.

If you would call your  
assessment account as full  
paid we will do all we  
can to repay you \$1125 that  
you have overpaid as well  
as the \$276.96 on the

Wm. J. East.

Yours Truly  
Francis B. Lyton.

MR. Edison,

Here is a blue print of the Edison and Maxim lamps

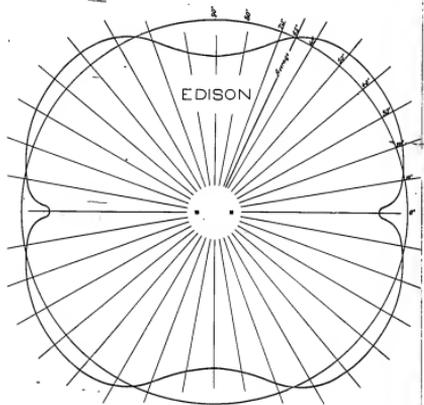
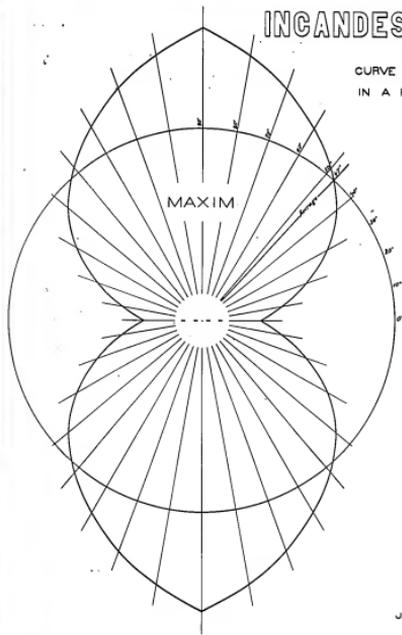
made by Prof. Barker. Please keep it for your files.

Dec. 21<sup>st</sup> 1882

S. B. Cator  
SBC

# INCANDESCENT LAMPS

CURVE OF ILLUMINATION  
IN A HORIZONTAL PLANE.



J. W. HOWELL.

Form No. 1

# THE WESTERN UNION TELEGRAPH COMPANY.

The Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assented to by the sender of the following message. It guarantees no delivery or preservation of messages beyond the service it can best perform, nor in any case where the delay is not prevented in writing within sixty days. This is an UNRECORDED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOMAS T. ECKERT, General Manager.

NORVIN GREEN, President.

| SENT BY                          | REC'D BY       | CHECK               |
|----------------------------------|----------------|---------------------|
| <i>J. R. Upton</i>               | <i>10 paid</i> | <i>127</i>          |
| Received at <b>761 BROADWAY.</b> |                | <i>Dec 28 1882.</i> |

*Said Newark NJ 28*

*to J. A. Edison*

*65 Fifth Ave ny*

*shall be admit to factory*  
*Professor Barber and friend tomorrow*

*J. R. Upton*

This telegram has just been received at the office in 761 BROADWAY, near 762d Street, where any reply should be sent.

DIRECTOR WILLIAMS.

[ATTACHMENT]

P. a. G.

what shall I say

insuel

Yes but dilute  
your explanation

EAST NEWARK, Dec 29, 1882

Saml. Inceall Esq.  
65 Fifth Ave.  
N.Y. City

Dear Sir:

The letter  
given me by you from  
Mr. Bachelon has been  
misplaced or lost by me.

I have searched for it, and  
concluded that it must have  
fallen from my pocket.

I have made full inquiries  
and given full responses.

One clock was sent in-  
turning glass of various lengths.

It was packed all round  
as tightly as possible with  
hay and paper, so over  
packed says. He says he

EAST NEWARK, 1882

P. 9. 2

took special personal pains  
to have the tube strongly  
packed as he thought.

He will never try the  
experiment again.

The lamps now are var-  
nished all over the exposed  
part of the plaster in the  
socket.

If letter regarding broken  
glass is found I will send  
it to you immediately.

Yours Truly  
Francis F. Upton

T. A. EDISON,

44.

Menlo Park, N. J., E. Lamp Co. 1880.

Edison Lamp Co  
East Newark N. J.

Send the hundred lamps  
~~for~~ ~~the~~ same valve here  
immediately want them  
so can test regulator here

Edison

#4  
Francis R. Upton (Mr?)  
East Newark  
~~Send me~~ about twenty  
pounds mercury. please  
attend to ordering small  
double flask for experiment  
with each run

Edison

John Ott.

Make model  
of instrument for standard  
of light. changing same  
to lamp C.

J. R. Upton

Mr. Ott's letter was written to my Father in  
the early eighties

Edwin F. Ott

Upton wants you to design  
a tasty, neat & convenient  
apparatus to make for the  
public for standard candle  
wick pla. - Several  
answers

**1882. Electric Light - Edison Lamp Company - Accounts (D-82-031)**

This folder contains correspondence and other documents relating to the finances of the Edison Lamp Company. Most of the correspondence is by Philip S. Dyer, secretary of the company.

Approximately 50 percent of the documents have been filmed. The following categories of documents have not been filmed: routine correspondence relating to financial transactions of the company; bills and receipts; bills of lading; trial balances.

*Edison*

THE EDISON ELECTRIC LAMP CO.,

John A. Edison,  
Charles Batchelor,  
Francis R. Upton,  
Edward H. Johnson.

Menlo Park, N. J.

Jan 29<sup>th</sup> 1882

J. A. Addison Esq.

Dear Sir,

Find below statement for  
week ending Jan. 21<sup>st</sup> 1882.

Capital Ac.

115511-41

We owe

17478-17

Edison 8. Ill. Co. for advancement

7500-00

Moneys due as follows

\$ 140489-58

Patentism for last assess - 9080.00

E. E. Light Co. Lamp Ac. 56.75

" " " Drud Ac. 3611.06

European E. L. Co. Patent Model 387.56

" " " House 878.00

E. E. Ill. Co. Lamp Ac. 35.00

Edison Mechanicals " 70.00

E. Co. for D. L. 286.00

House " 150.60

Drafts sent to E. E. L. Co.

for collection

44440  
\$ 8996.42

# THE EDISON ELECTRIC LAMP CO.,

Thos. A. Edison,  
Chas. Batchelor,  
Francis R. Upton,  
Edward H. Johnson.

Menlo Park, N. J., \_\_\_\_\_ 188

|                                      |                |            |
|--------------------------------------|----------------|------------|
| Lamps made for week ending           |                |            |
| Jan. 21 <sup>st</sup> exhausted Good | 4,818          |            |
| Lamps shipped during week            |                |            |
| ending Jan 21 <sup>st</sup>          | 715 B. lamps   |            |
|                                      | 370 A. "       |            |
| Lamps on hand                        |                |            |
| Packing Room Newark                  | 18,000         | Good Lamps |
| Resistance Lamps                     | 7,400          |            |
| Packing Room Menlo Park              | 36,014         | " "        |
| Resistance                           | 4,216          |            |
| Photo Room                           | 8,931          |            |
| Socket Room                          | 20,353         |            |
| Glass dept but socketing             | 6,013          |            |
| Total Good Lamps                     | 89,311         |            |
| " Resistance "                       | 11,616         |            |
|                                      | <u>100,927</u> |            |

Yours truly  
Edison Lamp Co.

Weekly Statement  
 Menlo Park N.J.  
 Edison Lamp Co. January 31<sup>st</sup> 1882  
 To J. A. Nelson Esq.

Bills due by us \* 17,244.36  
 " " to " " # 9452.18

Lamps on hand Jan 28<sup>th</sup> 1882

|               |                  |        |
|---------------|------------------|--------|
| Uswork        | Regular Lamps    | 18000  |
| "             | Resistance Lamps | 7400   |
| Menlo Park    |                  |        |
| Packing Room  | Reg Lamp         | 32358  |
| "             | Resis "          | 4216   |
| Photo "       | Reg. "           | 9438   |
| Socket "      | "                | 24981  |
| Glass Dept.   | "                | 5622   |
|               |                  | <hr/>  |
|               |                  | 102015 |
| Foreign Sales |                  | 2000   |
| Orders        | "                | 647    |
|               |                  | <hr/>  |
|               |                  | 104662 |

Lamps made during week  
 ending Jan 28<sup>th</sup> 1882 14604 -

Yours truly  
 Edison Lamp Co.  
 N.J.

Monthly Statement  
THE EDISON LAMP CO.,

Monte Park, N. J. Feb 1<sup>st</sup> 1882

V. A. Edison Esq.

|                                   |               |
|-----------------------------------|---------------|
| Bills due by us in detail         | # 17244.36    |
| Bills due to us in detail         | # 9450.16     |
| Lamps on hand Jan 1 <sup>st</sup> | 90947         |
| Lamps manuf'd in Jan              | 14,878        |
|                                   | <u>105845</u> |
| Home Sales for month              | 2575          |
| Foreign " " "                     | <u>2100</u>   |
|                                   | 4675          |
| Lamps on hand Feb 1 <sup>st</sup> | <u>101170</u> |
| Domestic orders for month         | 3736          |
| Foreign " " "                     | <u>6154</u>   |
|                                   | 9890 -        |

Yours truly  
Edison Lamp Co.  
D.

Bills we owe in Detail

|    |                       |             |
|----|-----------------------|-------------|
|    | H. R. Upton           | \$ 1 125 30 |
| #1 | Cond Fruit Jar Co     | 87 15       |
|    | Coming Glass Wks      | 4 938 79    |
|    | Vanderbeck & Sons     | 272 44      |
|    | Joseph Wharton        | 1 456 19    |
|    | Mathias Plim          | 16 17       |
|    | Moring Freeman        | 46 35       |
|    | Chas Pratt & Co       | 287 15      |
|    | E. Bergman & Co       | 1 895 46    |
|    | Boyle & Myers         | 7 95        |
|    | Boiler & Filing Works | 10 50       |
|    | S. J. Parduses        | 8 90        |
|    | Net American          | 7 50        |
|    | T. E. Smith & Son     | 19 90       |
|    | H. Allen              | 5 85        |
|    | Baldwin & Hueygraft   | 15 25       |
|    |                       | 10 58       |
|    | Chemical Mfg Co       | 24 73       |
|    | H. R. Worthing        | 1096516     |

#2

|                            |       |     |
|----------------------------|-------|-----|
| Belt & Leather S. Co       | 10968 | 16  |
| Geo Place Mch agency       | 29    | 69  |
| Mottley & Sterling.        | 2     | 20  |
| Early & Lane.              | 21    | 67  |
| John Lawson                | 5     | 75  |
| C. J. Chack & Co           | 129   | 54  |
| R. J. Chard.               | 3     | 75  |
| H. W. Stafford             | 11    | 75  |
| J. P. Lumber & Chase       | 2     | 75  |
| J. H. J. Green.            | 26    | 00  |
| N. B. Strong.              | 3     | 75  |
| J. M. Fitzgerald           | 2     | 33  |
| Electrical Supply Co       | 10    | 98  |
| C. Currier & Sons          | 1     | 32  |
| A. F. More                 | 2     | 36  |
| Habbie & Charney           | 20    | 00  |
| Socket. Co.                | 2038  | 02  |
| M. & W. H. Harlow mfg. Co. | 347   | 17  |
| Patterson Bros             | 166   | 65  |
| New York B & Packing Co    | 10    | 41  |
|                            | 72    | 00  |
|                            | 1387  | 625 |

#3

|                                                |                 |
|------------------------------------------------|-----------------|
| F. W. Gesswein                                 | 13 876 25       |
| <sup>Paris Exhibit</sup><br>European C. L. Co. | 31 01           |
| Thad Davids & Co                               | 144 15          |
| Cannon Bros & Co                               | 1 33            |
| Furness & Shaw                                 | 6 65            |
| Motherspoon Bros                               | 2 25            |
| Leligh Valley Coal Co.                         | 31 35           |
| Aurthur & Bunnell                              | 269 41          |
| Smith & Gates                                  | 115 80          |
| McKason & Robbins                              | 86 38           |
| Salamader Works                                | 27 96           |
| A B Okinans                                    | 124 62          |
| A J. Butler                                    | 147 74          |
| W. H. Godfrey                                  | 122 75          |
| D. Jones, Crucibles Co                         | 38 38           |
| P. Hartman                                     | 7 00            |
| E. F. Russenberger                             | 5 25            |
| Tower mfg. Co.                                 | 493             |
| Dewinson mfg. Co                               | 955             |
|                                                | 61 25           |
|                                                | <u>1511 401</u> |

#4

|                            |                  |
|----------------------------|------------------|
| J. Hayward & Co            | 15114.01         |
| Electrical Tube Co.        | 16.60            |
| B. Oil Refining Co.        | 6.00             |
| J. B. Hoyt, & Co.          | 17.50            |
| Talman & Grosvenor Mfg Co. | 11.89            |
| Jawer & Jacobs & Co        | 2.11             |
| By Ford.                   | 59.96            |
| Amsonia B & Copper Co      | 3.35             |
| T. G. Heltston & Co        | 10.24            |
| Faitoute Bros              | 14.90            |
|                            | <u>9.13</u>      |
| J. A. Edison Mfg Co        | 15265.69         |
|                            | 1978.67          |
|                            | <u>17,244.36</u> |

Bills due us in detail

|                                       |                |
|---------------------------------------|----------------|
| Edison assess 7c.                     | \$ 2655 00     |
| E. E. Light. Co Lamp 7c.              | 156 35         |
| " " " Canada Factory                  | 491 30         |
| European E. E. Light Co Patent models | 397 78         |
| E. E. Ill. Co                         | 35 00          |
| Edison mech works Lamp 7c             | 70 00          |
| Drafts for Collection                 | 455 47         |
| E Co for J. Lighting                  | 703 20         |
| European E Light. Co                  | 875 00         |
| Edison E Light Co                     | 3617 06        |
|                                       | <u>9456 16</u> |

Weekly Statement  
THE EDISON LAMP CO.,

Monte Park, N. J., Feb. 6<sup>m</sup> 1882

J. A. Edison Esq.

Bills due by us \$ 17599.88  
" to us \$ 7856.41

Lamps on hand Jan 30<sup>m</sup> 102015  
Lamps made during work  
ending Feb. 4<sup>m</sup> 5032  
107047

Deducted lamps not finished  
enough to be in this statement  
but put in in error last week. 3437  
103610

Hour Gains 1365  
Foreign "        1365  
Lamps on hand Feb. 6<sup>m</sup> 102245

Yours truly  
Edison Lamp Co.  
D.

THE EDISON LAMP COMPANY,

Wento Park, N. J., Feb 15<sup>th</sup> 1882

Paul Drussell Esq.  
# 65 Fifth Ave.  
New York

Dear Sir -

Enclose find  
weekly statement of  
Edison Lamp Co.

We would have sent  
it in on first of week  
but man who keeps the  
lamp account has  
been away.

Yours truly

Edison Lamp Co.

Mr Edison says you should  
not order Resistor Lamp  
in stock except unless you  
specially specify them as such

[ENCLOSURE]

Weekly Statement  
THE EDISON LAMP CO.,

Monte Park, N. J., Feb 15<sup>th</sup> 1882

T. A. Edison Esq.

|                                    |             |
|------------------------------------|-------------|
| Bills due by us                    | \$ 12938.69 |
| " " to " \$ 6933.27                |             |
| Lamps on hand Feb 1 <sup>st</sup>  | 102245      |
| made during week                   | <u>4842</u> |
|                                    | 107087      |
| Minor Oars 1067                    |             |
| Foreign " 3158                     |             |
|                                    | <u>4285</u> |
| Lamps on hand Feb 15 <sup>th</sup> | 102,862     |

Yours truly  
Edison Lamp Co.

Weekly Statement  
THE EDISON LAMP CO.,

Monte Park, N. J., Feb 20<sup>th</sup> 1882

J. A. Edison Esq.

Bills due by us # 15019.86  
" to " # 6230.92

Lamps on hand Feb 15<sup>th</sup> 102862

Lamps made during week  
ending Feb. 18<sup>th</sup> 5254

108116

Deduct Resistant Lamps 9636

98480

Hours Oars 917

Foreign " 4100

5017

Lamps on hand Feb. 20<sup>th</sup>

93463

Yours truly  
Edison Lamp Co.

" Weekly Statement "  
 THE EDISON LAMP CO.,

Monte Park, N. J. Feb 27<sup>th</sup> 1882

J. A. Edison Esq.

|                                                         |                |
|---------------------------------------------------------|----------------|
| Bills due by us                                         | # 15934.24     |
| By " 3 " 2 to " # 6126.42                               |                |
| Lamps on hand Feb 20 <sup>th</sup>                      | 93463 -        |
| Lamps made during week ending February 25 <sup>th</sup> | 5544 -         |
|                                                         | <u>99007 -</u> |
| Home Sales #68 -                                        |                |
| Foreign " 2000 -                                        | 3468 -         |
| Lamps on hand Feb 25 <sup>th</sup>                      | <u>95539 -</u> |

(Paid for Platinum # 630.)  
 not in above account

Yours truly  
 Edison Lamp Co.



With monthly Statement

THE EDISON LAMP CO.,

Monte Park, N. J. <sup>1<sup>st</sup></sup> March 1882

"Bills we owe in detail"

|                               |                    |
|-------------------------------|--------------------|
| T. A. Edison Offg apt         | 392.88             |
| P. P. Upton                   | 684.34             |
| Wood Fruit Jar Co.            | 1181.44            |
| Waring Glass Works            | 3474.54            |
| Charles Burroughs             | 44.30              |
| Vanderbeck and Sons           | 274.94             |
| Joseph Wharton                | 1456.19            |
| Manning Fireman               | 61.39              |
| Chas Pratt and Co.            | 289.15             |
| S. Bergmann and Co.           | 2419.68            |
| J. Lawson                     | 129.54             |
| W. P. Strong                  | 2.33               |
| J. M. Fitzgerald              | 28.88              |
| Electrical Supply Co.         | 1.32               |
| W. Currier and Sons           | 2.36               |
| A. F. Moore                   | 20.00              |
| Tabbi and Whamsey             | 2038.02            |
| McCrat and Carlisle Mfg Co.   | 166.65             |
| Callison Bros                 | 36.77              |
| T. Y. Belling and Packing Co. | 96.24              |
| F. W. Yekker                  | 32.56              |
|                               | <u>\$12,833.52</u> |

## THE EDISON LAMP CO.,

Monto Park, N. J., \_\_\_\_\_ 188

|                           |           |
|---------------------------|-----------|
| Edison Machine works      | 12,833.52 |
| T. Davids & Co.           | 8.00      |
| Donner Bros & Co.         | 1.33      |
| Tudman & Shaw             | 16.65     |
| Urs Place Mech Agency     | 2.25      |
| Ausonial Clock Co.        | 5.20      |
| Buckel & Sons             | 5.00      |
| J. L. Mott & works        | 50.00     |
| J. A. Rollings Sons & Co. | 2.25      |
| E. S. Gray                | .87       |
| Hotherslood Bros          | 46.99     |
| Lehigh Valley Coal Co.    | 27.00     |
| Arthur & Bonnell          | 677.86    |
| Smith & Gates             | 129.45    |
| Mrs. Kessoul & Robbins    | 128.19    |
| Salamander works          | 69.59     |
| A. D. Thimans             | 217.52    |
| H. C. Godfrey             | 22.74     |
| J. Dixon Amcible Co       | 29.63     |
| Hallacel & Sons N. Y.     | 297.50    |
| E. B. Benjamin            | 48.75     |
| Hallacel & Sons ausonial  | 9.80      |
|                           | 21.23     |
|                           | 14,651.32 |

THE EDISON LAMP CO.,

(3)

Monte Park, N. J., \_\_\_\_\_ 188

|                            |              |
|----------------------------|--------------|
| Salamander Sprat & Bar Co. | 14,653 6.33  |
| J. Hayward & Co.           | 34.48        |
| Ring - Oil Refining Co.    | 17.50        |
| J. B. Hoyt & Co.           | 34.99        |
| Galance & Grosjean Mfg Co. | 4.20         |
| James S. Kot               | 24.88        |
| Jamir Jacobs & Co.         | 59.96        |
| Ausoude Brass & C. Co.     | 12.50        |
| L. J. Dildosoul & Co.      | 28.10        |
| Mrs. Macknut & Co.         | 200.49       |
| Tower Mfg Co.              | .17          |
| Baldwin Bros & Co.         | 13.80        |
| P. J. Chand                | 11.50        |
| Wetley & Sterling          | 11.66        |
| Trailoulet Bros            | 25.23        |
| Total                      | \$ 14,968.84 |

with Monthly Statement

THE EDISON LAMP CO.,

Monte Park, N. J., May 1<sup>st</sup> 1882

Bills due to us in "detail"

|                                                  |             |
|--------------------------------------------------|-------------|
| T. A. Edison, Assist-                            | 155.00      |
| E. O. Light Co. Lamp a/c                         | 5.60        |
| European <sup>Paris</sup> Light Co.              | 628.63      |
| Dr. J. Morgan & Co. <sup>English</sup> Light Co. | 372.10      |
| E. E. Ill. Co. Lamp a/c                          | 52.85       |
| Dr. J. Morgan & Co.                              | 537.60      |
| T. A. Edison Agent                               | 402.78      |
| E. Light Co. Canada                              | 570.57      |
| E. O. Light Co. Sundries a/c                     | 3611.06     |
| Puskas <sup>and</sup> Bailey                     | 267.50      |
| Cash Book Barrisow & J.                          | 120.66      |
|                                                  | \$ 6,724.35 |

with "monthly statement"  
THE EDISON LAMP COMPANY,

Wentworth Park, N. J., <sup>Oct</sup> ~~Feb~~ 1902

Detail of Lamps

"~~Wentworth~~"

|                          |               |
|--------------------------|---------------|
| Regular old Socket       | 18,000        |
| " " " " " "              | 15,935        |
| " <del>Wentworth</del> " |               |
| Glass Dept               | 3,890         |
| Socket " "               | 14,298        |
| Photo " "                | 982           |
| Packing " " new Socket   | 28,113        |
| " " " " Old " "          | 5500          |
| Total                    | <u>95,558</u> |

Weekly Statement  
THE EDISON LAMP CO.,

Monte Park, N. J., March 6<sup>th</sup> 1882

P. A. Edison Esq.

|                                   |             |
|-----------------------------------|-------------|
| Balance due by us                 | \$ 17906.98 |
| to " " # 7377.55                  |             |
| Lamps on hand Feb 25 <sup>m</sup> | 95539       |
| made during week                  | <u>3357</u> |
|                                   | 101126      |
| Home Sales 845                    |             |
| Foreign " 3870                    | <u>4720</u> |
|                                   | 96406       |

Yours truly  
Edison Lamp Co. Dyer

"Weekly Statement"  
THE EDISON LAMP CO.

Monte Park, N. J. Mch 13<sup>th</sup> 1882

P. A. Edison. Esq.

|                                    |             |
|------------------------------------|-------------|
| Balance on hand                    | \$ 18630.42 |
| Due to us                          | \$ 5140.21  |
| Lamps on hand Mch 4 <sup>th</sup>  | 96406       |
| Made during week                   | 4887        |
|                                    | <hr/>       |
|                                    | 101258      |
| Home Sales                         | 525         |
| Foreign                            | 4025        |
|                                    | <hr/>       |
| Lamps on hand Mch 11 <sup>th</sup> | 96738       |

Yours truly  
Edison Lamp Co.

Weekly Statement  
 THE EDISON LAMP CO.,

Monte Park, N. J., March 20<sup>th</sup> 1882

T. Edison Esq.

|                                            |      |                |
|--------------------------------------------|------|----------------|
| Bill due by us                             |      | \$ 18625.85    |
| to                                         | "    | \$ 4512.82     |
| Lamps on hand <u>March 11<sup>th</sup></u> |      | 96738          |
| made during week                           |      | <u>5045</u>    |
|                                            |      | 101783         |
| Home Sales                                 | 420  |                |
| Foreign                                    | 1650 | 2070           |
| Lamps on hand <u>March 18<sup>th</sup></u> |      | <u>99713</u> - |

Yours truly  
 Edison Lamp Co.

Weekly Statement  
THE EDISON LAMP CO.,

Monte Park, N. J., Mch 27<sup>th</sup> 1882

T. A. Edison Esq.

|                                    |              |
|------------------------------------|--------------|
| Bills due by me                    | \$ 19765.28  |
| to                                 | \$ 4376.19   |
| Lamps on hand Mch 18               | 99713        |
| made during week                   | 5374         |
|                                    | <hr/> 105087 |
| Home Sales                         | 776          |
| Foreign                            | 250          |
|                                    | <hr/> 1026   |
| Lamps on hand Mch 25 <sup>th</sup> | 104061       |

Yours truly  
Edison Lamp Co.

Monthly Statement  
THE EDISON LAMP CO.,

Monte Park, N. J., April 1<sup>st</sup> 1882

J. A. Edison Esq.

Bills due by us \$27,764.07  
" " to \$18,696.61

Lamps on hand March 1<sup>st</sup> 95555  
" manuf<sup>d</sup> in March 82- 22967  
118525

Home Sales for month 3476  
Foreign " " 14260 17736  
deduct resistor Lamps 109,789  
Lamps on hand April 1<sup>st</sup> 99574

Home Orders for month 3476  
Foreign " " 6750  
10226

Yours truly  
Edison Lamp Co. Dyer

THE EDISON LAMP CO.,

Monte Park, N. J., April 1<sup>st</sup> 1882

|                              |                |
|------------------------------|----------------|
| Bills due by us              |                |
| I. A. Edison Mfg Co.         | 1022.66        |
| F. R. Upton                  | 5000.00        |
| Cont Fruit Jar Co.           | 303.50         |
| Corning Glass Works          | 5033.24        |
| Vandewerk & Son              | 389.63         |
| Chas Pratt & Co.             | 59.29          |
| J. Bergmann & Co.            | 2247.32        |
| Gabri & Chauncey             | 2038.02        |
| Patterson Bros               | 58.98          |
| Draxel Morgan & Co. Lamp Co. | 10.49          |
| E. E. Illuminating Co.       | 7500.00        |
| Edison Machine Works         | 898.45         |
| P. Demarest                  | 393.93         |
| J. B. Hoyt & Co.             | 56.91          |
| Schick Valley Coal Co.       | 421.52         |
| McLisson & Robbins           | 122.75         |
| A. B. Williams               | 58.77          |
| Hewes & Phillips             | 23.67          |
| E. P. Backus                 | 67.10          |
| Wm Godfrey                   | 29.63          |
| J. Dixon Crucible Co.        | 203.50         |
|                              | <hr/> 25941.66 |

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## THE EDISON LAMP CO.

Kimb Park, N. J. 188

|                          |          |
|--------------------------|----------|
| Wallace & Sons New York  | 25941.66 |
|                          | 48.75    |
| John Cornell             | 144.27   |
| Wallace & Sons Ausonia   | 20.37    |
| Dalmenander Gate Bar Co. | 43.04    |
| J. Hayward & Co.         | 47.04    |
| Electric Tube Co.        | 204.03   |
| Thos Macknut & Co.       | 96.10    |
| R. J. Chard              | 89.70    |
| Morris Fackerl Co.       | 614.15   |
| John Lawson              | 183.73   |
| Dalmenander Works        | 45.53    |
| Faitoute Briv            | 28.88    |
| Dundries account         | 303.52   |

---

 \$ 27764.07

27764.67

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THE EDISON LAMP CO.,

Monte Park, N. J. April 1<sup>st</sup> - 1882

Bills due to us -

|   |                        |                                 |                     |
|---|------------------------|---------------------------------|---------------------|
|   | T. A. Edison           |                                 | 7,155.00            |
|   | C. Batchelor           |                                 | 1,000.00            |
|   | Wm. McLaughlin         |                                 | 500.00              |
|   | E. H. Johnson          |                                 | 500.00              |
| W | Wm. & Chauncey         | damp %.                         | 452.10              |
| J | E. E. Light Co.        | Patent Models                   | 62.91               |
| 1 | E. E. Illuminating Co. |                                 | 70.70               |
|   | Edison Machine Works   |                                 | 35.35               |
|   | C. C. H. J. Lightbulb  |                                 | 418.40              |
|   | J. Pribstner           |                                 | 8.27                |
|   | T. A. Edison Agent     |                                 | 2951.76             |
| 3 | E. Light Co.           | "Canada Station"                | 592.18              |
| 3 | E. Light Co.           | "Opera House"                   | 873.00              |
| 6 | E. Light Co.           | Change in<br>Old to New Sockets | 1077.94             |
|   |                        |                                 | <u>\$ 15,696.61</u> |

Weekly Statement  
THE EDISON LAMP CO.

Monte Park, N. J. April 3<sup>rd</sup> 1882

T. A. Edison Esq.

Bills due by us \$ 20264.07  
" " to " \$ 15696.61

Lamps on hand Mch 25 104061  
" made during week  
ending Mch 30<sup>m</sup> 3079  
107140

Home Sales 1316  
Foreign 6250 7566

Lamps on hand April 1<sup>st</sup> 99574

Yours truly  
Edison Lamp Co. April

Weekly Statement  
THE EDISON LAMP CO.,

Harrison ~~Street~~ St. J. April 8<sup>th</sup> 1882

J. A. Edison Esq.

Bills due by us \$ 20452.22  
" " to " # 12736.55

Lamps on hand April 1<sup>st</sup> 99574  
Lamps made during week 99574

Home Sales 550  
Foreign " 350  
Lamps on hand April 8<sup>th</sup> 99024

Yours truly  
Edison Lamp Co.  
Dyer

Weekly Statement  
THE EDISON LAMP CO.,

Harrison Month End, N. J., April 15<sup>th</sup> 1882

J. A. Edison Esq.

|                                      |          |
|--------------------------------------|----------|
| Bills due by us                      | 20813.97 |
| By G. L. to " # 13720.07             |          |
| Lamps on hand April 8 <sup>th</sup>  | 99024    |
| Lamps made during week               | 99024    |
| <hr/>                                |          |
| From Sales 380                       |          |
| Foreign " 380                        |          |
| <hr/>                                |          |
| Lamps on hand April 15 <sup>th</sup> | 98639    |

Yours truly  
Edison Lamp Co. J. A.

Weekly Statement  
 THE EDISON LAMP CO.,

Harrison Newark N. J. April 22<sup>nd</sup> 1882

J. A. Edison Esq.

|                              |              |
|------------------------------|--------------|
| Bills due by us              | \$ 22,553.39 |
| Advancement E. E. Illu - Co. | \$ 7500.00   |
| Bills due to us, \$10,571.58 |              |

|                                      |       |
|--------------------------------------|-------|
| Lamps on hand April 15 <sup>th</sup> | 98639 |
|--------------------------------------|-------|

|               |              |
|---------------|--------------|
| No Lamps made | <u>98639</u> |
|---------------|--------------|

|                 |  |
|-----------------|--|
| From Sales 3693 |  |
|-----------------|--|

|                       |              |
|-----------------------|--------------|
| Foreign " <u>3693</u> | 3693         |
|                       | <u>94946</u> |

Deduct

|                      |  |
|----------------------|--|
| Resistor Lamps 12728 |  |
|----------------------|--|

|                           |  |
|---------------------------|--|
| Old order Expr. &c - 3045 |  |
|---------------------------|--|

|                      |              |
|----------------------|--------------|
| Defective Lamps 4662 | <u>20435</u> |
|----------------------|--------------|

|                                      |       |
|--------------------------------------|-------|
| Lamps on hand April 22 <sup>nd</sup> | 74511 |
|--------------------------------------|-------|

Yours truly  
 Edison Lamp Co. J. A. Edison

"Distribution"  
Good regular new Docket  
Lamps ready for  
shipment

|            |        |
|------------|--------|
| A          | 23 775 |
| B          | 16 390 |
| 16 C-B-    | 1 089  |
|            | <hr/>  |
|            | 41 254 |
| Old, S-    | 19 257 |
| Photo Room | 6 100  |
| Docket     | 7,900  |
|            | <hr/>  |
|            | 74 511 |

Monthly Statement  
THE EDISON LAMP CO.,

Harrison  
Newark, N. J., May 1<sup>st</sup> 1882

J. A. Edison Esq.

Bills due by us \$ 28633.13  
" " to " \$ 11964.59

Lamps on hand April 1<sup>st</sup> 99574  
" manuf<sup>d</sup> in April

Home Sales for month 4898  
Foreign " " 1188  
93488

Deduct

Resistance Lamps 12728  
Old order Expire. 5045  
Defective Lamps 3474 19247  
Lamps on hand May 1<sup>st</sup> 74241

Home Orders for month 5172  
Foreign " " 1388  
6560

Yours truly  
Edison Lamp Co.

THE EDISON LAMP COMPANY,

Harrison, N. J. May 1<sup>st</sup> 1882

~~with~~ Monthly Statement

J. A. Edison Esq.

Domestic Orders  
Total Lamps shipped 25954

Foreign Orders  
Total Lamps shipped 51840

Grand Total 80794

Yours truly  
Edison Lamp Co.  
Esq.

with

Monthly Statement

THE EDISON LAMP CO.,

<sup>Harrison</sup>  
~~Monte Park~~ N. J. May 1<sup>st</sup> 1882

|                                                               |                    |
|---------------------------------------------------------------|--------------------|
| Bills due by us                                               | 812.35             |
| T. A. Edison Mfg Co                                           | 8500.00            |
| A. R. Upton                                                   | 579.03             |
| Cond. Fruit Jar. Co.                                          | 2538.24            |
| Coming Glass Works                                            | 32.36              |
| C. Burroughs                                                  | 661.03             |
| Vanderbilt & Sons                                             | 59.29              |
| Chas Pratt Co.                                                | 2117.23            |
| A. Bergmann Co.                                               | 2038.02            |
| Fabri & Chamney                                               | 66.00              |
| Patterson Bros                                                | 36.75              |
| New York Putting & Packing Co.                                | 7500.00            |
| E. E. Iller Co. First Station                                 | 280.00             |
| Knobles Steam Pump works                                      | 1000.53            |
| Dundries & Co Newark parties<br>for Buildings & Fixtures here | 824.48             |
| J. B. Davis & Son                                             | 283.05             |
| Lehigh Valley Coal Co.                                        | 26.00              |
| Arthur & Bonwell                                              | 20.25              |
| Smith & Yates                                                 | 122.75             |
| M. Kesson & Robbins                                           | 48.83              |
| Salamanca Works                                               |                    |
|                                                               | <u>\$ 27243.19</u> |

THE EDISON LAMP CO.,

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Monte Park, N. J., \_\_\_\_\_ 188

| Bills due by us              |  | continued            |
|------------------------------|--|----------------------|
| J. Dixon Crucible Co.        |  | 27 <sup>243</sup> 19 |
| John Cornell                 |  | 100.00               |
| Dunham Mfg Co.               |  | 4.40                 |
| Electric Tube Co.            |  | 224.88               |
| J. G. Filcoxon Co.           |  | 46.50                |
| Galauer & Trojean            |  | 4.26                 |
| John Lawson fir 9-05         |  | 183.73               |
| Wm King                      |  | 221.50               |
| J. R. Day & Co.              |  | 700.60               |
| Newark Lime & Cement mfg Co. |  | 20.75                |
| Wm Murray                    |  | 71.80                |
| C. V. Poland                 |  | 53.95                |
| A. J. Van Winkle             |  | 27.65                |
| Autoute Bros                 |  | 20.92                |

\$ 28633.13

With Monthly Statement  
 THE EDISON LAMP CO.,

Harrison  
 Newark N. J. May 1<sup>st</sup> 1882

|                                          |         |
|------------------------------------------|---------|
| Bills due to us                          |         |
| P. A. Edison Assess-                     | 389.66  |
| Wm. Saugherin                            | 500.00  |
| E. H. Johnson                            | 500.00  |
| Wm. Holzer                               | 3765.34 |
| European Light Co. Patent Model          | 62.91   |
| Cash                                     | 3423.80 |
| Drafts for Collection                    | 452.10  |
| J. Libstein                              | 8.27    |
| E. Co. for D. Lighting Resocketing lamps | 24.14   |
| P. A. Edison Agent                       | 885.43  |
| European Light Co. Opera House           | 875.00  |
| Edison Light Co. Changing sockets        | 1077.94 |

\$ 11964.59

Week Statement

THE EDISON LAMP CO.,

Harrison

~~Monte Park~~ N. J. May 8<sup>TH</sup> 1882

Thomas A. Edison Esq.

|                          |                    |
|--------------------------|--------------------|
| Bills due by us,         | \$ 21258.85        |
| Advancement E. E. D. Co. | \$ 7500.00         |
| Bills due to us,         | <u>\$ 11840.85</u> |

|                                   |              |
|-----------------------------------|--------------|
| Lamps on hand May 1 <sup>st</sup> | 74241        |
| " " " " " " " "                   | <u>74241</u> |

Home Sales 126

Foreign " 126

Lamps on hand May 8<sup>TH</sup> 74115

Yours truly  
Edison Lamp Co.

"Weekly Statement"  
THE EDISON LAMP CO.,

Harrison  
~~Account Book~~ N. J. May 15<sup>TH</sup> 1882

T. A. Edison Esq.

|                            |                    |
|----------------------------|--------------------|
| Bills due by us            | # 20031.79         |
| Advanced by E. S. Ill. Co. | \$ 7500.00         |
| Bills due to us            | <u>\$ 10388.75</u> |

|                                   |              |
|-----------------------------------|--------------|
| Lamps on hand May 8 <sup>TH</sup> | 74115        |
| " " manuf'd in " now              | <u>74115</u> |

Hour Sales 75

Foreign " 75

Lamps on hand May 13<sup>TH</sup> 74040

Yours truly  
Edison Lamp Co.

"Weekly Statement"  
THE EDISON LAMP CO.,

Harrison  
~~Am. Pat. Co.~~ RECEIVED May 22<sup>nd</sup> 1882  
MAY 23 1882  
ANSWERED

J. A. Edison Esq. FILE NO. 188

|                                    |              |
|------------------------------------|--------------|
| Bills due by us                    | \$ 21,625.20 |
| Advanced by E. E. Ill. Co.         | \$ 7,500.00  |
| Bills due to us                    | \$ 13,792.79 |
| Lamps on hand May 15 <sup>th</sup> | 74,040       |
| Lamps manuf & wons                 | 74,040       |

|                                    |        |        |
|------------------------------------|--------|--------|
| Home Sales                         | 10,350 |        |
| Foreign                            | 7,742  | 8,777  |
| Lamps on hand May 20 <sup>th</sup> |        | 65,263 |

Yours truly  
Edison Lamp Co.

Working Statement

THE EDISON LAMP CO.,

Harrison

Mont. Park N. J., May 29<sup>th</sup> 1882

T. Edison Esq.

Bills due by us \$ 27630.50

Advancement by E.E. Ell. Co. 7500.00

Bills due to us, \$ 10131.93

Lamps on hand May 20 65263

"<sup>1/2</sup> manuf'd none

Home Sales 255 255

Foreign " none

Lamps on hand May 29 65008

Cash on hand \$ 2658.44

Yours truly  
Edison Lamp Co.

Monthly Statement

THE EDISON LAMP CO.,

East Newark, N. J. June 1<sup>st</sup> 1882

Thomas A. Edison Esq.  
Meads Park N. J.

|                            |              |
|----------------------------|--------------|
| Edison E. Ill Co. Advances | 7500.00      |
| T. A. Edison               | 6000.00      |
| W. R. Upton                | 12356.52     |
| Bills due by us            | 16063.88     |
|                            | <hr/>        |
|                            | \$ 41,922.37 |

Bills due to us \$7439.01

|                                   |       |
|-----------------------------------|-------|
| Lamps on hand May 1 <sup>st</sup> | 74241 |
| " manuf'd in "                    |       |

|                                    |       |
|------------------------------------|-------|
| Hour Orders for month              | 1675  |
| Foreign " " "                      | 8066  |
| Lamps on hand June 1 <sup>st</sup> | <hr/> |
|                                    | 9741  |
|                                    | <hr/> |
|                                    | 64500 |

|                       |       |
|-----------------------|-------|
| Hour Orders for month | 7171  |
| Foreign " " "         | 38899 |
|                       | <hr/> |
|                       | 38070 |

Yours truly  
Edison Lamp Co. &

With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. June 1<sup>st</sup> 1882

| Bills due by us             |             |
|-----------------------------|-------------|
| Thomas A. Edison advanced   | 6000.00     |
| Francis R. Lepton "         | 12358.52    |
| Coid Fruit Jar Co.          | 747.25      |
| 10 Downing Glass Works      | 2992.42     |
| Chas. Burrough              | 855.47      |
| 2 Vandervoort & Sons        | 723.51      |
| 2 Patterson Bros            | 88.17       |
| N.Y. Belt & Pkg. Co.        | 226.25      |
| E. E. Ill. Co. Advancement  | 7500.00     |
| Knowles Pump Works          | 280.00      |
| J. B. Davis & Son           | 504.45      |
| J. Hunter & Son             | 52.50       |
| Geo. Place Machy. Agency    | 22.72       |
| Newburgh Steam Boiler Works | 35.00       |
| V. A. Mason & Co.           | 125.00      |
| Chapin Hall Mfg. Co.        | 79.93       |
| Riv. Dept.                  | 45.00       |
| Jurinauer Wm Carman         | 201.00      |
| H. C. & H. R. Stevenson     | 15.45       |
| A. H. Moor (win)            | 20.00       |
|                             | \$ 32872.70 |

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With Monthly Statement

THE EDISON LAMP CO.,

East Newark, N. J. \_\_\_\_\_ 188

|                               |                    |
|-------------------------------|--------------------|
| Bills due by us <u>Contd.</u> | 32872 70           |
| Worrell & Co.                 | 18.45              |
| Peter Boyle                   | 655.17             |
| W. W. Tupper & Co.            | 198.55             |
| Burnet & Leonard              | 142.58             |
| Armington & Sims              | 1874.04            |
| Hewitt & Phillips             | 47.06              |
| J. A. Edison Mfg Co           | 924.51             |
| J. Bergmann & Co.             | 1637.90            |
| Fantoué Bris                  | 101.84             |
| The Masket & Co.              | 197.94             |
| Smith & Gates                 | 50.06              |
| Nickerson & Robbins           | 822.20             |
| DeCaumander Werkes            | 37.27              |
| J. Dixon Lucible Co.          | 267.65             |
| Electric Tube Co.             | 629.87             |
| Morris Tasker & Co.           | 80.09              |
| John Lawson                   | 183.73             |
| J. R. Dayn Jr & Co.           | 59.10              |
| Wm Murray                     | 77.65              |
| A. J. Vanbinkle               | 22.00              |
|                               | <u>\$40,900.69</u> |

With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

Bills due by us concluded

|                           |            |
|---------------------------|------------|
|                           | 40900.69   |
| E. P. Backus              | 118.45     |
| Geo. A. Hill & Co.        | 42.16      |
| Howard's Bros             | 370.42     |
| D. S. & C. R. R. Coal Co. | 112.80     |
| Seymour & Whitlock        | 191.87     |
| Jas. Crowell (Lumber)     | 120.48     |
| Small of Sundries         | 115.50     |
| Total                     | \$41922.37 |

With Monthly Statement  
 THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

|                                             |  |                    |
|---------------------------------------------|--|--------------------|
| Bills due to us                             |  |                    |
| E. H. Johnson Assessment                    |  | 500. 00            |
| Wm. Holgar                                  |  | 3765. 34           |
| Fabrizi & Chauncey "Lamps"                  |  | 75 00              |
| European E. L. Co. Patent Models            |  | 62, 91             |
| E. E. Light Co. "Lamps"                     |  | 35, 35             |
| Drafts for Collection                       |  | 447, 35            |
| J. Seibstein                                |  | 8, 27              |
| E. Co. for J. L. Resocketing Lamps          |  | 24, 14             |
| P. Edison Agent                             |  | 278, 61            |
| E. E. Light Co. "Canada"                    |  | 265, 17            |
| A. B. Wirans                                |  | 7, 03              |
| European E. L. Co. "Opera House"            |  | 875, 00            |
| E. E. Light Co. <sup>changing</sup> Sockets |  | 1077, 94           |
| Supplies small etc,                         |  | 16, 20             |
|                                             |  | <u>\$ 7439, 01</u> |
| Total                                       |  |                    |

Weekly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. June 5<sup>th</sup> 1882

|                                    |             |
|------------------------------------|-------------|
| J. A. Edison Esq.                  |             |
| E. & Ill Co. Advances              | 7500.00     |
| W. Edison                          | 6000.00     |
| R. Upton                           | 14013.69    |
| Bills due by us                    | 17292.15    |
|                                    | <hr/>       |
|                                    | \$ 44805.84 |
| Bills due to us                    | \$ 7160.40  |
| Lamps on hand May 29               | 65008       |
| " Manuf <sup>d</sup> Good          | 346         |
|                                    | <hr/>       |
|                                    | 65354       |
| Home Sales 1300                    |             |
| Foreign "                          | 324         |
|                                    | <hr/>       |
|                                    | 1624        |
| Lamps on hand June 5 <sup>th</sup> | 63730       |

Yours truly  
Edison Lamp Co.



Weekly Statement  
THE EDISON LAMP CO.,

Harison  
~~Bank~~ St. J. June 19<sup>th</sup> 1882

J. A. Edison Esq.

|                                     |             |
|-------------------------------------|-------------|
| E. S. Ill. Co. Advances             | 7500.00     |
| W. Madison "                        | 6000.00     |
| W. R. Upton                         | 22845.75    |
| Bills due by us                     | 12580.89    |
|                                     | <hr/>       |
| Bills due to us                     | \$ 48926.64 |
| Lamps on hand June 12 <sup>th</sup> | 66156       |
| " manuf'd Good                      | 694         |
|                                     | <hr/>       |
|                                     | 66850       |
| Home Sales 2656                     |             |
| Foreign "                           | 2656        |
|                                     | <hr/>       |
| Lamps on hand June 19 <sup>th</sup> | 64194       |

Yours truly  
Edison Lamp Co.

Weekly Statement  
 THE EDISON LAMP CO.

Monte Park, N. J. June 26<sup>th</sup> 1882

T. A. Edison Esq.

|                           |                 |
|---------------------------|-----------------|
| E. E. Ill. Co. Advances — | 7500.00         |
| T. A. Edison " "          | 6000.00         |
| W. R. Clifton             | 22848.75        |
| Bills due by us           | <u>13103.77</u> |
|                           | \$ 49449.52     |

Bills due to us \$8659.17

|                                     |             |
|-------------------------------------|-------------|
| Lamps on hand June 19 <sup>th</sup> | 64194       |
| " manuf'd Good                      | <u>3358</u> |
|                                     | 67552       |

|                                     |             |
|-------------------------------------|-------------|
| Hour Dials 725                      |             |
| Foreign " 2500                      | <u>3225</u> |
| Lamps                               | 64527       |
| Deduct Resistor Lamps               | <u>1500</u> |
| Lamps on hand June 26 <sup>th</sup> | 63027       |

Sincerely

Edison Lamp Co.

Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. July 1<sup>st</sup> 1882

G. A. Edison Esq.

Bills due by us \$ 40457.50

" " to " \$ 36435.52

Lamps on hand June 1<sup>st</sup> 64500  
~~Lamps~~ ~~made~~ ~~in~~ ~~June~~ 10150  
74650

Hour Rates for Month 9011

Foreign " " " 2824 11835

Product Resistant Lamps 62815

Lamps on hand July 1<sup>st</sup> 61315

Hour orders for month 6840

Foreign " " " 15050  
21890

Hour Dues from Jan, 1<sup>st</sup> to July 1<sup>st</sup> 25230

Foreign " " " " " " 34579  
62809

Yours truly  
Edison Lamp Co.

with Monthly Statement

THE EDISON LAMP CO.

East Newark

Month End, N. J. July 1st 1882

| Bills due by us          |                        |
|--------------------------|------------------------|
| J. R. Vpton              | advancement \$19905.19 |
| Cond. Fruit Jar Co.      | 747.25                 |
| Cumming Glass Works      | 2393.81                |
| Chas. Borroughs.         | 30.38                  |
| Vanderbeck & Sons.       | 57.50                  |
| Patterson Bros.          | 230.24                 |
| N.Y. Belting & Pkgs. Co. | 355.31                 |
| Druel Morgan Co.         | 10.49                  |
| E. E. Ell. Co.           | 7500.00                |
| Edison Machine Works     | 38.10                  |
| J. Hunter & Son          | 72.75                  |
| W. W. Mason Co.          | 125.00                 |
| H. C. & F. R. Stearns    | 10.45                  |
| A. H. Moore              | 20.00                  |
| Ja. Roellings Sm & Co.   | .90                    |
| W. W. Tupper & Co.       | 196.55                 |
| Pr. Skymead Chair Co.    | 21.00                  |
| Crowell & Co.            | 19.89                  |
| Hamon & VanWinkle        | 7.50                   |
| John Condor              | 10.15                  |
|                          | <u>29759.57</u>        |

2

## THE EDISON LAMP CO.,

Newark Park, N. J., \_\_\_\_\_ 188

| Bills due by us contd                  |                |
|----------------------------------------|----------------|
| H. Sinnard                             | \$227.30       |
| Knowles Steam Pump Works.              | .25            |
| R. H. Smith & Co.                      | 13.50          |
| Burnet & Leonard                       | 20.63          |
| E. C. Hay                              | 2.96           |
| Chas. W. Walker                        | 16.00          |
| W. Adams                               | 10.00          |
| <sup>Asbestos</sup><br>Patent Fire Co. | 180.00         |
| Ballard & Menchini                     | 1.48           |
| Godyear Rubber Co.                     | 1.79           |
| J. M. Fitzgerald                       | 17.44          |
| Newark Gas Light Co.                   | 8.00           |
| M. B. Belden                           | 11.96          |
| Pratt Campbell & Co.                   | 162.40         |
| J. A. Edison Mfg Co.                   | 924.57         |
| S. Bergmann & Co.                      | 2439.08        |
| A. & J. Brown                          | 185.95         |
| Chas. Pratt & Co.                      | 93.86          |
| J. R. Saxe Jr. & Co.                   | 89.70          |
| Fruitville Bros                        | 291.07         |
|                                        | <u>3446.82</u> |

3

## THE EDISON LAMP CO.,

Monte Park, N. J. \_\_\_\_\_ 188

|                                      |       |                 |
|--------------------------------------|-------|-----------------|
| Gills due by us                      | Contd |                 |
| Theo Mactnet & Co.                   |       | \$58.82         |
| Brotherspoon Bros                    |       | 10.50           |
| McKesson & Robbins                   |       | 1318.71         |
| Salamander Works                     |       | 15.66           |
| Wm. H. Godfrey                       |       | 1.25            |
| J. Dixon, C. Co.                     |       | 18.00           |
| <sup>Amoria</sup><br>Wallace & Sons. |       | 173.40          |
| Cook & Lubin                         |       | 6.00            |
| Sal Gate Bar Co.                     |       | 19.08           |
| J. Hayward & Co.                     |       | 57.72           |
| <sup>Sumner</sup><br>E. Tuttle, C.   |       | 1137.21         |
| Ping. Oil Refining Co.               |       | 38.70           |
| <sup>Samuel</sup><br>Bergmahl & Co.  |       |                 |
| Salanee & Bros Jean                  |       | 8.75            |
| Pyoma, B. & C. T. Co.                |       | 16.08           |
| Interest <sup>ap</sup>               |       | 2.53            |
| L. S. Dillston & Co                  |       | 2.80            |
| R. J. Chard                          |       | 30.88           |
| Morris Sacker & Co                   |       | 80.09           |
| J. M. Lawson                         |       | 27.17           |
|                                      |       | <u>37604.75</u> |

THE EDISON LAMP CO.,

Monte Park, N. J. \_\_\_\_\_ 188

Bills due by us Concluded

|                         |                   |
|-------------------------|-------------------|
| Newark S. & C. Mfg. Co. | \$11.20           |
| Wm. Murray              | 158.34            |
| D. Van Winkle           | 23.50             |
| E. P. Backus            | 129.03            |
| N. G. & L. Greenfield   | 130.32            |
| La. Oil & Co.           | 147.59            |
| Howard & Bros.          | 108.76            |
| Seymour & Whitlock      | 191.87            |
| Jas. Crowell            | 52.87             |
| Geo. F. Mohr Agency     | 1535.52           |
| J. Ogden & Sons         | 6.50              |
| J. M. Hansell & Sons    | 3.69              |
| Hewes & Phillips        | 343.86            |
| Bliss & Carrington      | 7.50              |
| Citizen Gas Light Co.   | 6.40              |
|                         | <u>\$40459.50</u> |

with Monthly Statement

THE EDISON LAMP CO.,

East Newark

Month End, N. J. July 31 1882

Bills due to us

|                                                 |            |
|-------------------------------------------------|------------|
| S. A. Edison 47%                                | \$19125.00 |
| Chas Batchelor 10%                              | 3750.00    |
| Mag. F. M. Longdale 5%                          | 1875.00    |
| E. H. Johnston 5%                               | 2375.00    |
| Wm Holzer 3%                                    | 4890.34    |
| Tabbi & Chaucey<br>Agent <sup>agents</sup>      | 1965.40    |
| European Light Co.                              | 62.91      |
| Edison Machine Works                            | 70.35      |
| Drafts for Collection                           | 75.00      |
| S. A. Edison Agent<br><sup>Foreign Branch</sup> | 146.35     |
| E. E. Light Co.<br><sup>Canada Factory</sup>    | 217.95     |
| A. B. Kinzie<br><sup>Lamps at</sup>             | 7.03       |
| Bergmann & Co.<br><sup>Opera House</sup>        | 35.35      |
| European Light Co.                              | 875.00     |
| E. E. Light Co.                                 | 897.94     |
| Wm Holzer                                       | 11.90      |
| J. A. Epton                                     | 5.00       |
|                                                 | \$36408.52 |

Weekly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. July 10<sup>th</sup> 1882

|                                     |            |
|-------------------------------------|------------|
| T. A. Edison Esq.                   |            |
| Bills due by us                     | \$41872.70 |
| Bills " to " # 3186.52              |            |
| Lamps on hand July 3 <sup>rd</sup>  | 61,315     |
| " " " in work                       | 3990       |
|                                     | 65305      |
| Hour Orders 2175                    |            |
| Foreign " 1300                      | 3475       |
| Lamps on hand July 10 <sup>th</sup> | 61830      |

Yours truly  
Edison Lamp Co. Cash

Western Statement  
THE EDISON LAMP CO.,

East Newark, N. J., July 17<sup>th</sup> 1882

T. A. Edison Esq.

|                                     |                 |
|-------------------------------------|-----------------|
| E. E. Ill. Co. Advances             | 7500.00         |
| To R. Upton "                       | 21635.19        |
| o) Bills due by us                  | <u>17449.71</u> |
| Bills due to us \$33712.77          | 46604.90        |
| Lamps on hand July 10 <sup>th</sup> | 61830           |
| " manuf & during week               | <u>3141</u>     |
|                                     | 64971           |
| Hours Sacs 1950                     |                 |
| Foreign " 2400                      | <u>4400</u>     |
| Lamps on hand July 17 <sup>th</sup> | 60371           |

Yours truly  
Edison Lamp Co.

Working Statement  
THE EDISON LAMP CO.,

East Newark, N. J. July 24<sup>th</sup> 1882

Thomas A. Edison Esq.

|                                     |                 |
|-------------------------------------|-----------------|
| E. S. Bell Co. Advances             | 7500 00         |
| Lighting                            | 21455.19        |
| Bills due by us                     | <u>15073.34</u> |
|                                     | \$ 44498.53     |
| Bills due to us \$33458.66          |                 |
| Lamps on hand July 17               | 60571           |
| " Manufacturing work                | <u>2846</u>     |
|                                     | 63417           |
| Hour Sales                          |                 |
| Foreign " 2450                      | <u>2450</u>     |
| Lamps on hand July 24 <sup>th</sup> | 60967           |

Yours truly,  
Edison Lamp Co. Sgm

Weekly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. July 31<sup>st</sup> 1882

Thomas A Edison Esq.

E. E. M. Co. Advances

7500.00

R. Upton "

21405.19

Bills due by us

~~21424.67~~

Bills due to us \$ 30909.66

50329.83

Lamps on hand July 1<sup>st</sup>

60967

" made during week

3820

64787

Hours Sales 100

Prize " —

100

Lamps on hand July 31<sup>st</sup> 64687

Yours truly  
Edison Lamp Co.

Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., Aug 1<sup>st</sup> 1882

T. A. Edison Esq.  
Bills due by us \$ 54043.06  
" " to " \$ 38533.16

Lamps on hand July 1<sup>st</sup> 61315  
" manuf<sup>d</sup> in July 15792  

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77107

Home Sales for month 4750  
Foreign " " " 15235  

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19985  
Lamps on hand Aug 1<sup>st</sup> 57122

Home Sales for month 2975  
Foreign " " " 4662  

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7637

Yours truly  
Edison Lamp Co.

\*, With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., August 1, 1880.

|                                                                       |              |
|-----------------------------------------------------------------------|--------------|
| Bills due by us.                                                      |              |
| J. P. Opton                                                           | \$ 24,405.19 |
| Conrad Fruit Jar Co.                                                  | 747.25       |
| Corning Glass Works                                                   | 4,328.57     |
| Chas. Borroughs.                                                      | 71.68        |
| Vanderbeck & Sons                                                     | 57.53        |
| Patterson Bros.                                                       | 561.35       |
| New York. Betting & P. Co.                                            | 647.81       |
| Drexel Morgan & Co.                                                   | 10.49        |
| E. C. Ill. Co. Lamp <sup>1st</sup> <sup>cent</sup> <sup>station</sup> | 750.00       |
| Edison Machine Works.                                                 | 1,252.25     |
| Hunter & Sons.                                                        | 52.50        |
| V. Mason & Co.                                                        | 125.00       |
| H. Co. & F. R. Stinson                                                | 15.45        |
| A. F. Moore                                                           | 20.00        |
| Ja. Roebbing Sons & Co.                                               | .90          |
| W. W. Tupper & Co.                                                    | 198.55       |
| F. Haywood Chain Co.                                                  | 21.00        |
| Hanson & Van Vinkle                                                   | 7.50         |
| John Condon                                                           | 10.15        |
|                                                                       | \$ 40,033.19 |

#12.

With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., August 1<sup>st</sup> 1882.

|                                           |                    |
|-------------------------------------------|--------------------|
| Bills due by us. cont'd                   | \$ 40033.19        |
| P. Smith & Co.                            | 13.25              |
| Chas. W. Walker                           | 17.75              |
| J. Adams                                  | 38.00              |
| <sup>admission</sup><br>Patent Office fo. | 180.00             |
| Ballard & Menchie                         | 21.48              |
| Jas. Hunter & Sons                        | 25.25              |
| Godyear Rubber fo.                        | 1.70.              |
| J. M. Fitzgerald                          | 17.44              |
| Newark Gas Light fo.                      | 8.00               |
| Blyden & Farrington                       | 7.00               |
| M. B. Belden                              | 11.96              |
| M. Lukamitch                              | 135.92             |
| J. E. Querek                              | 4.00               |
| T. A. Edison Mfg Co                       | 1069.25            |
| S. Bergmann Co.                           | 2480.28            |
| Salamander Works                          | 227.34             |
| Jas. Crowell                              | 541.28             |
| Wm. Murray                                | 207.90             |
| <sup>Orderers</sup><br>Essex - fo.        | 9.10               |
| Godwin Gas Stove & M <sup>o</sup> .       | 10.50              |
|                                           | <u>\$ 43065.12</u> |

# 3

With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., August 24<sup>th</sup> 1882

|                                    |         |          |
|------------------------------------|---------|----------|
| Bills due by us "continued"        | * 45065 | 12       |
| Mr Carman                          |         | 95.00    |
| E. J. for Lighting                 |         | 619.16   |
| Lvan Nostrand                      |         | 75.00    |
| Chapin Hall Mfg Co.                |         | 212.71   |
| A. & F. Brown                      |         | 174.52   |
| Chas. Fratt & Co.                  |         | 279.87   |
| Jas. P. Sayre & Co.                |         | 308.21   |
| Fruitout Bros                      |         | 80.66    |
| Theo Macknet & Co.                 |         | 171.15   |
| Wotherspoon Bros                   |         | 10.50    |
| Arthur & Bonnell                   |         | 52.50    |
| Smith & Gates                      |         | 17.59    |
| McKesson & Robbins                 |         | 229.03   |
| Mr H. Godfrey                      |         | 17.25    |
| J. Dixon Crucible Co.              |         | 259.62   |
| Wallace & Sons <sup>New York</sup> |         | 3.74     |
| Crowell & Coe                      |         | 58.74    |
| Wallace & Sons <sup>Amoria</sup>   |         | 173.45   |
| Western Electric Mfg Co.           |         | 25.09    |
|                                    | #       | 47928.71 |

#4

Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. August 1<sup>st</sup> 1886

# 47928.71

Bills due by us - continued

|                                         |                    |
|-----------------------------------------|--------------------|
| Book & Clubs                            | \$ 1.00            |
| Saml Raynor & Co.                       | 8.50               |
| Holmes Booth & Hayden                   | 9.70               |
| Salamander Grate Bar Co.                | 16.72              |
| J. Haynala & Co.                        | 53.72              |
| Elec. Tube Co.                          | 1127.21            |
| Byng Oil Refining Co.                   | 38.70              |
| Salance & Grosjean                      | 8.75               |
| Amson's B. H. Co.                       | 16.03              |
| L. G. Tillotson & Co.                   | 2.80               |
| R. J. Chard                             | 30.88              |
| Morris Taster <sup>new York</sup> & Co. | 80.09              |
| Morris J. J. Canning <sup>Bank</sup>    | 184.50             |
| John Lawson                             | 142.17             |
| Newark Lumber & Co.                     | 23.50              |
| W. G. S. Greenfield                     | 21.14              |
| G. A. Oehl & Co.                        | 147.07             |
| Howarth Bros.                           | 220.15             |
| Del. Lack. & W. R. R.                   | 264.99             |
|                                         | <u>\$ 50449.35</u> |

#5

With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. August 17, 1882.

|                              |               |
|------------------------------|---------------|
|                              | \$ 50 449, 35 |
| Bills due by us. Continued   |               |
| Geo. Place McPhy Agency      | 2,411.81      |
| J. Ogden & Son.              | 8.70          |
| Heber & Phillips             | 633.91        |
| A. S. Jacobus                | 22.25         |
| S. M. Clarke                 | 38.00         |
| E. C. Hay                    | 32.70         |
| Peter Hayden <sup>ship</sup> | 46.34         |
| Morris Tasker & Co.          | 400.00        |

\$ 54 043, 06

With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. August 1882

Bills due to us.

|                        |                                     |              |
|------------------------|-------------------------------------|--------------|
| Thos. A. Edison assess |                                     | \$ 19,125.00 |
| Chas. Batchelor        | "                                   | 3,750.00     |
| Maj. F. M. Loughlin    | "                                   | 1,875.00     |
| E. H. Jameton          | "                                   | 875.00       |
| Wm. Hozer              |                                     | 4,890.34     |
| European. E. Light Co. | Patent models                       | 62.91        |
| E. C. Ill. Co. Lamp of | "                                   | 215.05       |
| J. A. Edison Agent     |                                     | 4,406.17     |
| E. E. Light Co. Canada |                                     | 240.95       |
| E. J. M. I. Lighting   | Lamps                               | 76.25        |
| A. B. Hinman           |                                     | 7.00         |
| Bergmann Ho.           | Lamps                               | 35.35        |
| European Lt. Co.       |                                     | 875.00       |
| E. C. Light Co.        | Changui sockets                     | 597.94       |
| Wm. Hozer              | Quid-                               | 38.15        |
| Mr. J. J. O'Plon       |                                     | 5.10         |
| J. H. Edison           | Lamp of "mason" Mineral Park        | 36.30        |
| Peter Boyle            | Advanced on Contract Rocket Lamp of | 87.41        |
| E. J. M. I. Lighting   | Lamps                               | 20.26        |
| Drafts for Collection  |                                     | 215.85       |
|                        |                                     | \$ 38,533.16 |

Bill

Weekly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., Aug 7<sup>th</sup> 1882

Thomas A. Edison Esq.

|                      |                     |
|----------------------|---------------------|
| E. Edell Co. advance | 7500.00             |
| # R. Upton           | 21405.19            |
| Bills due by us      | <del>25238.45</del> |

Bills due to us \$5553.16

|                       |             |
|-----------------------|-------------|
| Lamps on hand July 31 | 64687       |
| " made during week    | <u>5500</u> |

|            |             |              |
|------------|-------------|--------------|
| Home Sales | 2200        | 70187        |
| Foreign    | <u>9185</u> | <u>11385</u> |

Lamps on hand Aug 7<sup>th</sup> 58802

Yours truly  
Edison Lamp Co.

*File*

Weekly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. Aug 14<sup>th</sup> 1882

Thomas A. Edison Esq.

|                         |                 |
|-------------------------|-----------------|
| E. E. Ill. Co. Advances | 7500 00         |
| F. R. Upton "           | 21405 19        |
| Bills due by us         | <u>26362 13</u> |

Bills due to us \$32836,28.

|                     |             |
|---------------------|-------------|
| Lamps on hand Aug 7 | 58802       |
| " made during week  | <u>4000</u> |
|                     | 63302       |

|                 |             |
|-----------------|-------------|
| Hour Sales 1200 |             |
| Prize " —       | <u>1200</u> |

Lamps on hand Aug 14<sup>th</sup> 62102

Yours truly  
Edison Lamp Co.

Weekly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., Aug 21<sup>st</sup> 1882

Thomas A. Edison Esq.

|                        |                    |
|------------------------|--------------------|
| E. E. Ill. Co. Advance | 6710.00            |
| F. R. Wpton            | 21970.19           |
| Bills due by us        | <u>20149.46</u>    |
|                        | \$ 48829.65        |
| Bills due to us        | <u>\$ 26406.47</u> |

|                                    |             |
|------------------------------------|-------------|
| Lamps on hand Aug 14 <sup>th</sup> | 62102       |
| " made during week                 | <u>4500</u> |
|                                    | 66602       |

|            |             |
|------------|-------------|
| Home Sales | 3924        |
| Foreign    | <u>4350</u> |
|            | <u>7274</u> |

Lamps on hand Aug 21<sup>st</sup> 59328

Yours truly  
Edison Lamp Co.

Weekly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., Aug 25<sup>th</sup> 1882

|                                    |                   |
|------------------------------------|-------------------|
| Thomas A. Edison Esq               |                   |
| E. E. Bell Co., Advance            | 6710.00           |
| F. R. Minton "                     | 21405.19          |
| Bills due by us                    | * <u>20996.26</u> |
| Bills due to us                    | * <u>25263.44</u> |
| Lamps on hand Aug 21 <sup>st</sup> | 59328             |
| " made during week                 | <u>3300</u>       |
|                                    | 62628             |
| Hour Sales 25                      |                   |
| Foreign " 2318                     | <u>2543</u>       |
|                                    | 60285             |
| Lamps on hand Aug 28 <sup>th</sup> |                   |

Yours truly  
Edison Lamp Co.

Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., Sept 1<sup>st</sup> 1882

Thos A. Edison Esq.

|                                    |             |              |
|------------------------------------|-------------|--------------|
| Bills due by us                    |             | \$ 50611.93  |
| " " to "                           | \$ 26379.23 |              |
| Lamps on hand Aug 1 <sup>st</sup>  |             | 57122        |
| " manuf'd in August                |             | <u>20000</u> |
|                                    |             | 77122        |
| Home Sales for Month               | 9157        |              |
| Foreign " " "                      | <u>8156</u> | 17310        |
| Lamps on hand Sept 1 <sup>st</sup> |             | <u>59812</u> |
| Home orders for Month              | 6929        |              |
| Foreign " " "                      | <u>2000</u> |              |
| Total                              |             | 8929         |

Yours truly  
Edison Lamp Co.

#1, *Written Monthly Statement*  
 THE EDISON LAMP CO.,

East Newark, N. J., *Sept 1<sup>st</sup> 1882*

| <i>Bills due by us</i>                                 |              |
|--------------------------------------------------------|--------------|
| <i>J. P. Upton</i>                                     | \$ 21,405.19 |
| <i>Genl. Fruit Jar Co.</i>                             | 747.25       |
| <i>Corning Glass Works.</i>                            | 4,927.48     |
| <i>N.Y. Printing &amp; Packing Co.</i>                 | 16.20        |
| <i>Patterson Bros.</i>                                 | 164.80       |
| <i>V. W. Gesswein.</i>                                 | 1.68         |
| <i>E. E. Ill. Co.</i>                                  | 6710.00      |
| <i>Edison Machine Works.</i>                           | 2,612.25     |
| <i>T. A. Edison Mfg Co. &amp; Co.</i>                  | 1,152.20     |
| <i>S. Bergmann &amp; Co.</i>                           | 2,186.03     |
| <i>Cyber Cyden</i>                                     | 49.57        |
| <i>H. Rice Mfg. Agency.</i>                            | 143.60       |
| <i>Crowell &amp; Co.</i>                               | 82.75        |
| <i>Edison Crucible Co.</i>                             | 300.00       |
| <i>Salamander Works.</i>                               | 140.95       |
| <i>Mr. Murray</i>                                      | 147.77       |
| <i>E. Co. <sup>more for fixtures</sup> for Equity.</i> | 619.16       |
| <i>L. Van. Nostrand</i>                                | 75.00        |
| <i>Chapin Cell Mfg. Co.</i>                            | 212.71       |
| <i># 41 644.54</i>                                     |              |

#2.

## THE EDISON LAMP CO.,

East Newark, N. J., Sept. 12<sup>th</sup>, 1880.

| Bills due by us, "Continued. |                 |
|------------------------------|-----------------|
| Noyes, Manuf. Co.            | 21.00           |
| M. Sukavitch                 | 90.77           |
| E. J. Fritout & Co.          | 7.00            |
| A. T. Moore                  | 30.87           |
| Walter Heywood Chas. Co.     | 14.62           |
| Torrall & Co.                | 74.80           |
| Sullivan & Cromwell          | 20.00           |
| Hanson & Van Ninkles         | 2.45            |
| Vulcanized Fibre Co.         | 24.80           |
| Chas. Walker                 | 5.00            |
| Watts, Campbell & Co.        | 337.63          |
| Ansonia Clock Co.            | 4.00            |
| Boyle & Syles                | 8.25            |
| Amington Bros & Co.          | 59.00           |
| A. & F. Brown                | 48.90           |
| J. R. Sayre & Co.            | 120.20          |
| Fritout, Bros.               | 100.37          |
| The Mactret & Co.            | 223.17          |
| J. B. Court & Co.            | 4.30            |
| Out forward                  |                 |
|                              | <u>41644 54</u> |
|                              | \$ 42840.67     |

# 3

THE EDISON LAMP CO.,

East Newark, N. J., Sept 1<sup>st</sup> 1882.

Bills due by us, "Continued,"

|                            |                  |   |
|----------------------------|------------------|---|
| McAlison & Robbins         | \$230.71         |   |
| C. A. DeHart               | 64.05            | ✓ |
| Salamander Grate Bar Co.   | 137.60           |   |
| Electric Tube Co.          | 1135.21          |   |
| Ansonia Brass & Copper Co. | 55.21            |   |
| L. S. Gillotson & Co.      | 10.70            |   |
| Morris Tasker & Co.        | 80.09            | ✓ |
| Morris County S. Bank      | 187.50           | ✓ |
| John. Sawson               | 67.17            |   |
| Newark Lime & C. Mfg. Co.  | 6.60             |   |
| C. V. Polaud               | 17.77            |   |
| A. Van Nante               | 8.40             |   |
| Howarth Bros.              | 716.70           |   |
| Seymour & Whitlock         | 12.25            | ✓ |
| A. Gden & Son              | 25.74            | ✓ |
| John. Cassells Sons        | 21.30            | ✓ |
| A. D. Jacobus              | 166.26           | ✓ |
| Peter Boyle                | 736.20           |   |
| E. C. Day                  | 39.25            | ✓ |
| Port forward               | <del>42.40</del> |   |
|                            | # 46859.39       |   |

#4

THE EDISON LAMP CO.,

East Newark, N. J., Sept. 1st 1888.

Bills due by us," Continued "

|                     |                    |
|---------------------|--------------------|
| Morris Tasker & Co. | \$404.20           |
| Bills Payable.      | 3,487.16           |
| B. Conlan & Co.     | 36.18              |
| V. J. Mason & Co.   | 125.00             |
| 0 J. H. Furrard     | 46859.39           |
| H. Neal             |                    |
| 2 1/2               |                    |
|                     | <u>\$ 50611.93</u> |

With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. Sept 1<sup>st</sup> 1882

Bills due to us

|                                                    |                     |
|----------------------------------------------------|---------------------|
| Thomas. A. Edison Assess %                         | \$1125.00           |
| Charles. Batcher . . .                             | 3750.00             |
| E. H. Johnston . . .                               | 875.00              |
| <sup>M<sup>rs</sup></sup> Colver.                  | 4890.34             |
| E. E. Light Co. Lamp ac                            | 32.30               |
| Drafts for Collection                              | 364.55              |
| F. A. Edison Agent                                 | 2522.37             |
| Edison E. Light Co. <sup>Canada.</sup>             | 267.95              |
| Edison for Dr. Light                               | 315.80              |
| A. P. Urbans.                                      | 7.03                |
| Bergmann H.                                        | 35.35               |
| Edison Machine Works. <sup>Foreign Office</sup>    | 301.50              |
| Europegen. E. Light Co. <sup>Overseas</sup>        | 875.00              |
| E. E. Light Co.                                    | 897.94              |
| <sup>M<sup>rs</sup></sup> Colver.                  | 38.15               |
| F. R. Upton <sup>and</sup>                         | 5.00                |
| F. A. Edison Lamp ac.                              | 46.00               |
| O. P. for <sup>Edison E. Light Co.</sup> Lighting. | 29.95               |
|                                                    | <u>\$ 26 379.23</u> |

*Weekly Statement*  
 THE EDISON LAMP CO.,

East Newark, N. J. Sept 18<sup>th</sup> 1882

Thos A. Edison Esq.

|                               |             |
|-------------------------------|-------------|
| Bills due by us               | 23904.12    |
| <i># R. M. Watson</i> advance | 20993.19    |
| <i>E. &amp; G. Co.</i> "      | 6977.00     |
|                               | <hr/>       |
|                               | \$ 51494.31 |

Bills due to us \$ 25149.45

|                                               |             |
|-----------------------------------------------|-------------|
| Lamps on hand Sept 1 <sup>st</sup>            | 57812       |
| " manuf <sup>d</sup> to Sept 18 <sup>th</sup> | <hr/> 10440 |
|                                               | 70252       |

|                                     |      |              |
|-------------------------------------|------|--------------|
| Home Sales                          | 5056 |              |
| Foreign "                           | 1800 | 6836         |
| Lamps on hand Sept 18 <sup>th</sup> |      | <hr/> 63396- |

The above account is for two weeks

*Louis Bruyl*  
 Edison Lamp Co.

*Monthly Statement*  
THE EDISON LAMP CO.,

East Newark, N. J., Oct 2<sup>nd</sup> 1882

Thomas A. Edison Esq.

|                 |          |                 |
|-----------------|----------|-----------------|
| \$ P. Upton     | advances | 22681.19        |
| E. & S. Co.     | "        | 3281.50         |
| Bills due by us |          | <u>26962.69</u> |
|                 |          | \$ 54,843.03    |

Bills due to us \$ 33212.11

|                              |              |
|------------------------------|--------------|
| Lamps on hand Dept ret       | 59812.       |
| " Manuf <sup>d</sup> in Dept | <u>16900</u> |
|                              | 76712.       |

|                                   |       |              |
|-----------------------------------|-------|--------------|
| Hour Orders for month             | 10923 |              |
| Foreign " " "                     | 7419  | 18342.       |
| Lamps on hand Oct 2 <sup>nd</sup> |       | <u>58390</u> |

|                       |                 |           |
|-----------------------|-----------------|-----------|
| Hour orders for month | 887.3           |           |
| Foreign " " "         | 14,850          |           |
|                       | <u>15,737.3</u> | Reinlaier |

24873  
Yours truly  
Edison Lamp Co.

With Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J. Oct 2<sup>nd</sup> 1882

Bills due by us,

|                             |           |
|-----------------------------|-----------|
| F. R. Upton advanced        | 22681, 19 |
| Cond Fruit Jar Co.          | 747, 25   |
| Conning Glass Works         | 5921, 24  |
| Factor & Chamney "Bambos"   | 1461, 94  |
| New York B & Packing Co.    | 27, 53    |
| Patterson Bros              | 290, 28   |
| F. W. Gesswein              | 1, 63     |
| Drexel Morgan & Co. Lamp Co | 10, 49    |
| C. E. Ill. Co. Advanced     | 5231, 50  |
| Edison Machine Works Fund-  | 2695, 15  |
| W. W. Luffer & Co.          | 198, 55   |
| F. Anderson Mfg Co. "Mules" | 1152, 20  |
| J. Bergmann & Co.           | 2728, 98  |
| Thos Macknet Co.            | 120, 32   |
| C. A. DeHart                | 169, 12   |
| Peter Hayden                | 42, 87    |
| Ho. Place Mah Agency        | 137, 20   |
| Gravell & Coe               | 39, 94    |
| J. Dixon Crucible Co.       | 687, 10   |
| Calamander Works            | 227, 71   |

#44572 19

2

THE EDISON LAMP CO.,

East Newark, N. J. \_\_\_\_\_ 188

|                            |             |
|----------------------------|-------------|
| Wm Murray                  | \$ 44572.19 |
| Edison Co. for D. Lighting | 20.01       |
| Noyes Mfg. Co.             | 619.16      |
| W. Lukaintsch              | 21.00       |
| W. Hayward Chan Co.        | 90.77       |
| Vulcanized Fibre Co.       | 14.62       |
| Quinnigton Bros Co.        | 24.30       |
| Newark Gas Light Co.       | 59.00       |
| D. E. Baerdiel             | 10.80       |
| F. Assmann                 | 204.75      |
| Wakeman & Kirge            | 102.76      |
| From & Sharpe              | 16.62       |
| Eugert & Bermau            | 16.64       |
| J. E. Smith & Son          | 355.05      |
| J. A. Dooling Sons Co.     | 49.64       |
| Montgomery Co.             | 9.80        |
| John Gordon                | 14.62       |
| J. M. Fitzgerald           | 10.85       |
| Watts Campbell & Co.       | 16.32       |
| E. L. Fairoute & Co.       | 10.98       |
| A. & F. Brown              | 21.00       |
|                            | 105.52      |
|                            | \$ 46368.40 |

3

THE EDISON LAMP CO.,

East Newark, N. J. \_\_\_\_\_ 188

|                           |             |
|---------------------------|-------------|
| J. R. Daye Jr Co.         | \$ 46366.40 |
| Fairbank Bros             | 122.60      |
| Worthington Bros          | 447.85      |
| Arthur & Bonnell          | 10.50       |
| Smith & Gates             | 44.30       |
| M. Nelson & Robbins       | 29.25       |
| Cook & Pulver             | 445.41      |
| Salamander Gate Bar Co.   | 30.00       |
| Aurora Brass & Copper Co. | 137.60      |
| Baldwin Bros & Co.        | 370.55      |
| John Lawson               | 28.76       |
| E. P. Backus              | 313.85      |
| Geo. A. Ohl Co.           | 566.33      |
| Howarth Bros              | 51.98       |
| News & Phillips           | 400.56      |
| A. D. Jacobus             | 8.72        |
| Wm. Clarke Co.            | 12.66       |
| Peter Boyle               | 85.30       |
| E. C. Hay                 | 736.20      |
| Morris Tasker Co.         | 10.89       |
|                           | 404.20      |
|                           | \$ 50023.73 |

4

## THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

# 50023.73

|                              |         |
|------------------------------|---------|
| Geo. Haer Meluy Aguirre note |         |
| Bills Payable                | 3457.16 |
| P. Coulan & Co.              | 247.73  |
| Hausen & Lautbrinke          | 13.70   |
| Electric Tube Co.            | 1136.17 |
| Chapin Har Mfg Co.           | 54.85   |
| Chas Walker                  | 62.00   |
| sundries small ac            | 10.69   |

# 57843.03

With Monthly Statement  
 THE EDISON LAMP CO.,

East Newark, N. J., Oct 2<sup>nd</sup> 1882

|                            |                      |             |
|----------------------------|----------------------|-------------|
| Bills due to us            |                      |             |
| Thomas A Edison Assoc-     |                      | 9775.00     |
| E. H. Johnson              | "                    | 875.00      |
| Mrs Holzger                | "                    | 4890.34     |
| Edison Elec. Light Co.     |                      | 75.35       |
| Frabri & Chaussey          |                      | 38.00       |
| European & Light Co.       | Patent<br>Infringers | 826.91      |
| E. & Ill. Co.              | Lamp &c              | 111.00      |
| Edison Machine Works       | " "                  | 50.50       |
| Drafts for Collection      |                      | 794.70      |
| T. A. Edison Agent         |                      | 4249.89     |
| A. B. Williams             |                      | 7.03        |
| Bergmann & Co              | Lamp &c              | 75.85       |
| Edison Mach. Works         | Fourth America       | 501.50      |
| Edison E. Light Co.        | Grand-               | 897.94      |
| Mrs Holzger                | "                    | 42.15       |
| F. R. Whitton              | "                    | 0.00        |
| T. A. Edison               | Lamp &c              | 46.00       |
| Edison Co. for D. Lighting | Residual<br>Lamps    | 29.95       |
| E. H. Johnson              | Lamp &c              | 10.00       |
|                            |                      | <hr/>       |
|                            |                      | \$ 23212.11 |

THE EDISON LAMP CO.,

East Newark, N. J., Oct. 6 1882

Thos. A. Edison Esq.  
65 Fifth Ave. (New York City)

Dear Sir:

We are in need of money for following objects.

Oct 10 Geo. Place Mfg. Agency <sup>for</sup> machine shop tools <sup>for</sup> ~~for~~ 3,487.16

Consolidated Flint Jar Co. 747.25

We shall have to place another order with them and should pay this bill even four months old.

Corning Glass works. 2,500.00

I want to pay them this on next \$5,921.24 in order to get Bated glass promptly.

Bergmann & Co. This is a 1,250.00

very old account \$2,728.98

Peter Boylen, Mason 735.20

balance on carbonizing house \$ 8,720.61

Yours Truly  
Francis R. Upton.

Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., Nov 1<sup>st</sup> 1882

Thomas A. Edison Esq.,

|                                   |                     |                 |
|-----------------------------------|---------------------|-----------------|
| F. R. Upton                       | Advance             | 25746.96        |
| E. E. Ill. Co.                    | "                   | 5514.00         |
| Bills due by us                   |                     | <u>30568.46</u> |
|                                   |                     | \$ 67826.44     |
| Bills due to us                   | \$22216.99          |                 |
| Lamps on hand Oct 2 <sup>nd</sup> |                     | 58370           |
| " " " "                           |                     | <u>23635</u>    |
|                                   |                     | 82005           |
| Hours Due for month               | 14388               |                 |
| Foreign                           | 5858                | <u>20246</u>    |
| Lamps on hand                     | Nov 1 <sup>st</sup> | 61759           |
| Hours due for month               | 27654               |                 |
| Foreign                           | 3000                | <u>30654</u>    |

Yours truly  
Edison Lamp Co. Exrs

~~With Monthly Statement~~

THE EDISON LAMP CO.,

East Newark, N. J. Nov 1<sup>st</sup> 1882

Bills due by us.

|                                  |           |
|----------------------------------|-----------|
| F. R. Upton Advances             | 25746.96  |
| Comt. Fruit Jar Co.              | 747.25    |
| Coming Glass Works               | 9233.92   |
| Fabber & Charney                 | 1461.94   |
| New York Lettering & Packing Co. | 45.05     |
| Patterson Bros                   | 488.33    |
| E. E. Ill. Co. Central Station   | 5514.00   |
| Edison Machine Works             | 2393.65   |
| Drafts for Collection            | 208.45    |
| W. W. Mason & Co.                | 1251.00   |
| W. W. Tupper & Co.               | 198.55    |
| F. A. Edison Mfg. Co.            | 2766.35   |
| A. Bergmann & Co.                | 1965.45   |
| Fairbairn Bros                   | 103.83    |
| Aurora Brass & Copper Co.        | 483.83    |
| The Macknet & Co.                | 197.60    |
| C. A. DeHart                     | 206.51    |
| P. Hayden                        | 62.10     |
| H. Haer Money Agency             | 146.90    |
|                                  | <hr/>     |
|                                  | \$2010.03 |

2 THE EDISON LAMP CO.,

East Newark, N. J. \_\_\_\_\_ 188

|                       |            |
|-----------------------|------------|
| Crowell & Co          | 78.20      |
| J. Dixon Crucible Co. | 964.60     |
| Dalamander Books      | 273.71     |
| Mr Murray             | 342.81     |
| E. P. for J. Lighting | 619.16     |
| Noyes Mfg. Co.        | 21.00      |
| M. Sukanitsch         | 90.77      |
| W. Hayward Chair Co.  | 14.62      |
| Kulcauskas Film Co.   | 27.45      |
| Birmingham Iron & Co. | 59.00      |
| Wakeman & Perry       | 16.62      |
| Brown & Sharpe        | 16.64      |
| J. A. Smith & Son     | 49.64      |
| Montgomery & Co.      | 15.62      |
| W. H. Howard          | 16.32      |
| E. L. Hallowell Co.   | 21.00      |
| Sam. Carr             | 72.82      |
| Van Nostrand          | 40.00      |
| A. & F. Brown         | 108.52     |
| Chas. Pratt & Co.     | 185.73     |
|                       | <hr/>      |
|                       | * 3838, 23 |

## THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

|                           |          |
|---------------------------|----------|
| J. P. Dwyer & Co.         | 146.40   |
| Arthur & Bonnell          | 193.60   |
| Smith & Gates             | 29.25    |
| McLession & Robbins       | 445.41   |
| Wallace & Sons            | 41.50    |
| Cook & Pulver             | 30.00    |
| Catawander Water Bar Co.  | 137.60   |
| J. Lawson                 | 268.85   |
| E. P. Backus              | 73.70    |
| G. A. Che & Co.           | 51.95    |
| Harris & Phillips         | 24.32    |
| Peter Boyle               | 781.20   |
| Morris Tackler & Co.      | 404.20   |
| Bills Payable             | 2512.03  |
| D. Coulay & Co.           | 25.03    |
| Chapin & Co.              | 1184.17  |
| Chapin Mill Mfg. Co.      | 93.50    |
| W. Walker                 | 42.06    |
| E. Co. & Co.              | 152.41   |
| Howard Bros               | 20.00    |
| J. Hayward & Co.          |          |
| Deductions small accounts | 138.17   |
| Total                     | 6782.18  |
|                           | 61826.44 |
|                           | 61826.44 |

with Monthly Statement

THE EDISON LAMP CO.,

East Newark, N. J., Nov 1<sup>st</sup> 1882

Bills due to us,

|                                       |             |
|---------------------------------------|-------------|
| T. Edison assess.                     | 9575.00     |
| Mr. Holgar "                          | 4890.34     |
| E. E. Light Co.                       | 271.50      |
| European E. Light Co.                 | 526.91      |
| E. E. Ill. Co. Lamp of                | 120.00      |
| Edison Machine Works                  | 70.50       |
| T. A. Edison Agent                    | 3184.39     |
| E. E. Light Co. Canada                | 258.83      |
| E. Co. for J. Lighting                | 708.25      |
| E. E. Ill. Co. Lammier                | 19.95       |
| Western E. Light Co.                  | 976.00      |
| A. D. Jacobs                          | 65.78       |
| Bergmann Co. Lamp                     | 106.35      |
| E. E. Light Co. Bracket Lamps         | 899.94      |
| sundries                              | 62.93       |
| T. A. Edison sq. Lamp of              | 46.00       |
| E. Co. for J. Lighting Resocket Lamps | 57.12       |
|                                       | 22216.99    |
|                                       | \$ 22216.99 |

|                         |                  |
|-------------------------|------------------|
| Casey Co                | 25,998.52        |
| <del>Bank Balance</del> | 28,666.82        |
| <del>Bank of Am</del>   |                  |
| <del>Features</del>     |                  |
|                         | <u>54,665.34</u> |

|                   |                 |
|-------------------|-----------------|
| Machinery & Tools | 36416.58        |
|                   | 2995.45         |
|                   | <u>39412.03</u> |

|                      |                  |
|----------------------|------------------|
| Spent in Experiments | 95334.33         |
|                      | 57665.34         |
|                      | 39412.03         |
|                      | <u>189411.70</u> |

|               |                  |
|---------------|------------------|
| Stock in hand | 20000            |
|               | <u>209411.70</u> |

Average pay roll \$15,000<sup>00</sup>  
 & bills monthly

11

Nov. 14

Investment

Monthly Statement  
THE EDISON LAMP CO.,

East Newark, N. J., Dec 1<sup>st</sup> 1882

|                                   |                 |
|-----------------------------------|-----------------|
| Thomas Edison Esq.                |                 |
| F. R. Upton Advance               | 26260.12        |
| E. E. Ill. Co. "                  | 3925.00         |
| Bills due by us                   | <u>33213.02</u> |
|                                   | 63398.64        |
| Bills due to us \$14479.49        |                 |
| Lamps on hand Nov 1 <sup>st</sup> | 61759           |
| " manuf. in Nov. -                | <u>29122</u>    |
|                                   | 90881           |
| Hours sales for month 17212       |                 |
| Foreign " " " 14480               | 31362           |
| Lamps on hand Dec 1 <sup>st</sup> | <u>39219</u>    |
| Hours sales for month 13786       |                 |
| Foreign " " " 7200                | <u>21286</u>    |

Yours truly  
Edison Lamp Co. 244

with

Monthly Statement

THE EDISON LAMP CO.,

1

East Newark, N. J. Dec 1<sup>st</sup> 1882

| Bills due by us            |                    |
|----------------------------|--------------------|
| J. A. Edison assess 7c     | 1125.00            |
| F. R. Upton Advanced       | 26260.62           |
| Cond Fruit Jar Co.         | 442.67             |
| Corning Glass Works        | 9541.34            |
| Chas Burroughs             | 705.37             |
| Fabrizi and Chalmers       | 1461.94            |
| New York B and Packing Co. | 52.67              |
| Patterson Bros             | 720.57             |
| E. E. Ill. Co. Advance     | 3925.00            |
| Edison Machine Works       | 2393.65            |
| J. A. Edison Mfg Co        | 2776.96            |
| N. Bergmann Co.            | 1990.27            |
| Fraiture Bros              | 45.47              |
| Ausonias S & Copper Co.    | 403.53             |
| Thos Mackent Co.           | 98.65              |
| C. A. De Hart              | 50.29              |
| Peter Hayden               | 90.73              |
| Gro Paer Mech Agency       | 246.93             |
| Crowell & Coe              | 102.94             |
| J. Dixon Crucible Co.      | 1139.32            |
|                            | <u>\$ 53777.64</u> |

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## THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

|                           |                 |
|---------------------------|-----------------|
|                           | 53777.64        |
| Bills due by us,          | 53777.64        |
| Dalman and Works          | 273.71          |
| Mrs Murray                | 113.94          |
| Edison Co for O. Lighting | 279.16          |
| M. Sukdintsoch            | 95.47           |
| Kul. Film Co.             | 27.45           |
| Brown & Sharpe            | 16.64           |
| J. E. Smith & Son         | 49.64           |
| C. M. Cairns              | 72.82           |
| Van Nostrand              | 48.00           |
| John Ray                  | 44.71           |
| Van Wickel Street Co.     | 124.63          |
| J. J. Mulligan            | 160.75          |
| C. F. Brown               | 122.21          |
| Chas. Pratt & Co.         | 374.30          |
| J. R. Dayer Jr & Co.      | 148.80          |
| Arthur & Bonnell          | 175.05          |
| McKesson & Robbins        | 471.23          |
| Wallace & Sons Ansonia    | 41.50           |
| Cook & Rulver             | 300.00          |
| Dalman and Frates Bar Co. | 166.64          |
|                           | <u>56611.29</u> |

3

## THE EDISON LAMP CO.,

East Newark, N. J. ————— 188  
54611.29

|                            |             |
|----------------------------|-------------|
| Bills due by us            | 56611.29    |
| Durhamton Oil Refining Co. | 33.47       |
| P. J. Dwyer                | 68.15       |
| John W. Hanson             | 268.85      |
| E. P. Beckus               | 215.41      |
| G. W. Orl Co.              | 51.98       |
| D. L. W. R. R. Coal        | 366.75      |
| Harris + Phillips          | 74.32       |
| Peter Boyle                | 542.97      |
| Morris Tasker Co.          | 804.70      |
| W. Placer Mch. Agmt "Note" | 2512.03     |
| Electric Tube Co.          | 1136.17     |
| Chapin Hall Mfg Co.        | 176.40      |
| Chas Walker                | 35.18       |
| W. T. Poland               | 65.13       |
| Howard Biss                | 188.99      |
| J. Hayward Co.             | 44.80       |
| J. G. Elliott Co.          | 23.65       |
| A. H. Moore                | 37.03       |
| Dundries small account     | 192.17      |
|                            | \$ 63898.64 |
| Total                      |             |

with Monthly Statement  
THE EDISON LAMP CO.,

1 East Newark, N. J., Dec 1 1882

| Bills due to us                                       |         |
|-------------------------------------------------------|---------|
| Mrs. Holzer Assist-                                   | 4590.34 |
| European Light Co. <sup>Paris</sup> <del>London</del> | 826.91  |
| Edison Machine Works. Lamp Co                         | 70.80   |
| Drafts for Collection                                 | 891.30  |
| T. A. Edison Agent Co.                                | 6191.30 |
| A. D. Jacobus                                         | 88.47   |
| Peters Mfg. Co.                                       | 125.00  |
| A. B. Winans                                          | 7.03    |
| E. E. Light Co. Resocketing                           | 897.94  |
| E. D. Cole Light Co.                                  | 508.00  |
| E. C. for J. St. Resocket Lamp Co                     | 6.95    |
| E. H. Johnson Lamp Co.                                | 8.75    |

~~\$ 24,489.49~~

THE EDISON LAMP CO.  
Thomas Edison Agent of -

Memorandum East Newark, N. J. \_\_\_\_\_ 188  
Debit

|          |              |                        |           |
|----------|--------------|------------------------|-----------|
| July 26. | # 68,        | E. E. L. Co. London,   | 453, 80   |
| " 31     | Amstres      | Europe                 | 4133, 58  |
| " "      | Slave        | Chas Batchelor, France | 272, 59   |
| Aug 3    | Lamp of      | E. L. Co, London       | 296, 00   |
| " 9      | " "          | Chas Batchelor France  | 149, 00   |
| " 14     | 58, 55, + 76 | E. L. Co, Europe.      | 2217, 00  |
| " 26     | 24. 38. 76.  | E. L. Co London        | 1178, 38  |
| " 28     | 77           | E. E. Co Europe.       | 170, 84   |
| " 31     | 58           | E. L. Co, London,      | 10 03, 50 |
| Sept 7   | 88           | Geneva                 | 404, 30   |
| " 14     | 58, 30.      | E. L. Co. London       | 1830, 03  |
| " 18     | 90           | Chas Batchelor Paris   | 742, 00   |
| " 25     | 86           | " "                    | 568, 70   |
| " 30     |              | E. E. Co. Hamburg      | 986, 50   |
| Oct 4    | 93           | Just White Geneva      | 1278, 50  |
| " 7      | 55           | E. E. Co. Europe       | 222, 00   |
| " 7      | 57           | " " Europe             | 714, 80   |
| " 9      | Slave        | Chas Batchelor         | 70, 50    |
| " 24     | 105          | Barcelona              | 1681, 00  |
| " 31     | 106          | E. E. Co. Hamburg      | 493, 00   |
| " "      |              |                        | 980, 00   |
| Nov 2    | 93           | Geneva                 | 19889, 03 |
|          |              |                        | 2166, 50  |
|          |              |                        | 22054, 53 |
|          |              |                        | 20348, 14 |
|          |              |                        | 1706, 39  |
|          |              | By Cash                |           |

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

Thomas Edison Agent of -  
 Mend Credits

|   |         |              |                    |
|---|---------|--------------|--------------------|
|   | July 24 | By Cash      | 453.80             |
|   | Aug 12  | " "          | 4093.58 ✓          |
|   | " 14    | " "          | 196.85 ✓           |
| 3 | " 19    | " "          | 2217.00 ✓          |
| 7 | " 22    | " "          | 421.59 ✓           |
|   | Sept 5  | " "          | 170.54 ✓           |
|   | " 9     | " "          | 2211.88 ✓          |
|   | " 19    | " "          | 404.30 ✓           |
|   | " 21    | Lamps broken | 20.00 ✓            |
|   | Oct 3   | By Cash      | 1500.00 ✓          |
|   | " 9     | " "          | 1000.00 ✓          |
|   | " 10    | " "          | 1278.50 ✓          |
|   | " 17    | " "          | 936.80 ✓           |
|   | " 31    | " "          | 1800.00            |
|   |         |              | <u>16704.64</u>    |
|   |         |              | <u>3643.50</u>     |
|   |         |              | <u>\$ 20348.14</u> |
|   | Nov. 6  | By Cash      |                    |

16704

1882. Electric Light - Edison Lamp Company - Lamp Test Reports (D-82-032)

This folder contains correspondence and reports relating to lamp tests conducted by John T. Marshall, John W. Howell, and John Ott.

Approximately 20 percent of the documents have been filmed. A series of standard forms, used to report test results, has not been filmed.

THE EDISON ELECTRIC LAMP CO.,

Thos. A. Edison,  
Chas. Batchelor,  
Francis R. Upton,  
Edward H. Johnson.

Menlo-Park, N. J., Jan 5 1882

Mr. Edison

I burnt several Carbons in sand  
and quartz but find a failure, as when  
it comes out of the furnace, it resembles  
that of old Vincent Potter and is necessary  
to be broken down the anvil.

I tried other substances, I shall  
give you the following table below  
Kaolin one part Wood five parts  
makes a very hard Carbon smooth and close  
but resistance high  
Kaolin and Wood Res 625. 470. 415. 480.  
400. 540. 500. You will see the resistances  
are not equal, in wood carbons they  
are more equal, Res 345. 380. 405. 440.  
over



*Acct*

THE EDISON LAMP CO.,

Chas. A. Edison,  
Chas. Batchelor,  
Freddie R. Upton,  
Edward H. Johnson.

Menlo Park, N. J., *Jan. 9* 1882

Mrs. P. A. Edison,

Dear Sir,

Please find 48  
candle tests at 3-00 P.M. to-day,  
569-Varnished lamps, 572-Heated lamps,  
573-Night run Dec 16, 574-Day run Dec 17  
575-Day & night " 19, 576-Day & night " 20  
579- " " " " 21

|    |      |      |      |      |      |      |             |
|----|------|------|------|------|------|------|-------------|
|    | 569  | 572  | 573  | 574  | 575  | 576  | 579         |
| 1  |      |      |      |      | 465  | 80   | 120         |
| 2  |      |      |      |      | 715  | 275  | 210         |
| 3  |      |      |      |      | 775  | 350  | 250         |
| 4  |      |      |      |      | 845  | 500  | 350         |
| 5  | 3935 | 2265 | 2385 | 3815 | 975  | 750  |             |
| 6  |      |      |      |      | 1015 | 795  |             |
| 7  |      |      |      |      | 1445 | 985  |             |
| 8  |      |      |      |      | 1640 | 1350 |             |
| 9  |      |      |      |      | 1815 | 1570 |             |
| 10 |      |      |      |      | 2275 |      | <i>P.M.</i> |

THE EDISON LAMP CO.,

Chas. A. Edison,  
Chas. Batchelor,  
Freddie R. Upton,  
Edward H. Johnson.

Menlo Park, N. J., *Jan. 10* 1882

Mrs. P. A. Edison,

Dear Sir,

Please find  
below the 48 candle tests at  
3-00 P.M. to-day,  
576-Day & night Dec. 20.  
579- " " " " 21.  
580- " " " " 22.

|         |      |     |                    |
|---------|------|-----|--------------------|
|         | 576  | 579 | 580                |
| 1       |      |     | 205                |
| 2       |      |     | <del>250</del> 250 |
| 3       |      |     | 295                |
| 4       |      |     | 750                |
| 5       |      |     | 1110               |
| 6       | 1390 |     | 1125               |
| 7       | 1750 |     |                    |
| 8       | 1975 |     |                    |
| 9       |      |     |                    |
| 10-3720 |      |     |                    |

Yours truly  
*J. Marshall*

THE EDISON ELECTRIC LAMP CO.,

Thomas Edison,  
 Chief Inventor,  
 Francis B. Upson,  
 General M. Johnson.

*File*

Menlo Park, N. J., *January 12, 1882*

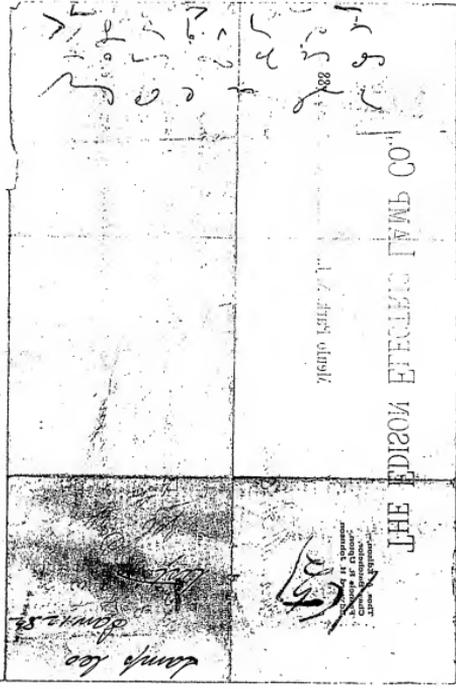
*M. A. Edison,*

Dear Sir,

Please find below the  
 record of the several 48 candle tests at  
 9-00 P.M. to-day  
 580 - Day & night run A lamps Dec. 22, 1881.  
 583 - " " " " " " Jan. 9, 1882.  
 584 - " " " " " " " " 10. "

|    |      |      |      |
|----|------|------|------|
|    | 580  | 583  | 584  |
| 1  |      | 210  | 200  |
| 2  |      | 295  | 340  |
| 3  |      | 665  | 375  |
| 4  |      | 1180 | 420  |
| 5  |      | 2117 | 495  |
| 6  |      |      | 690  |
| 7  | 2100 |      | 720  |
| 8  | 2450 |      | 775  |
| 9  |      |      | 830  |
| 10 |      |      | 870  |
| 11 |      |      | 1065 |

*10*





THE EDISON ELECTRIC LAMP CO.,

Thos. A. Edison,  
Chas. Batchelor,  
Francis H. Upton,  
Edward H. Johnson.

*S. New City*

Menlo Park, N. J., *Jan 14* 1882.

*Mr Edison*

*I have had the experiments I made  
Graphite, resistance low but deep black  
carbon and brittle. give very good economy  
about 11 lamps to the horse power at 75  
candle power.*

*Sand, bakes together into  
a solid mass,*

*Wood Carbon*

*Resistances are Double* 240,  
530,  
515.

*Quartz, the same as sand  
Lampblack, one half of the  
Carbons were consumed, and the other were  
so rotten that you could not handle  
them*

THE EDISON ELECTRIC LAMP CO.,

Thos. A. Edison,  
Chas. Batchelor,  
Francis H. Upton,  
Edward H. Johnson.

Menlo Park, N. J., \_\_\_\_\_ 188

*I also used Low Consumed Carbon  
altogether*

*Chalk added the same  
as lime.*

*Wood Carbon*

*Resistance* 685,  
845,  
530,  
540,  
600,  
630,  
620

*Place both of them  
in a jar and use the right  
heat or steam the  
and surrounding of the  
other*

*Limestone consumed the  
wood altogether*

*Dipped into Oil of Cassia  
before carbonizing, makes very black  
Carbons,*

*Oil of Spruce the same  
Eod line Oil  
Paraffine Oil John. F. W.*

NO. THE EDISON ELECTRIC LAMP CO.,

John A. Edison,  
 Chief Engineer,  
 Francis H. Upton,  
 Edward H. Johnson.

Menlo Park, N. J., Jan 28 1882

Mr. Edison

Dipping the spiral carbons in oil lowers their resistance and makes them black, and close, when looked at under the Microscope. My object in dipping them in oil, is the oil will dissolve the resin and pitch that is contained in the fiber, and when inclosed in wood carbon the wood will absorb the oil with its impurities leaving pure wood to be charred into Carbon.

Oil. Jasmin

Resistance 4.10, 3.50, 4.22, 3.50, 4.30

Oil of Spruce

Res 4.10, 3.90,  
 4.22, 4.10,  
 4.22

Over

THE EDISON ELECTRIC LAMP CO.

Edward N. Johnson  
Patent Attorney  
New York  
George Eastman  
John A. Edison

1888

*Del. of N. Edison*

*320, 358, 320, 358*

*320, 358, 320, 358*

*320, 358, 320, 358*

# THE EDISON ELECTRIC LAMP CO.

Thos. A. Edison,  
 Chas. Batchelor,  
 Frank R. Upton,  
 Edward H. Johnson.

Menlo Park, N. J., *January 16*, 1882

*Mr. P. A. Edison,*

*Dear Sir,*

*Please find below the various tests up to 3-00 P.M. to-day.*

*585. One clamp copper & the other nickel plated A.*

*593. Day & night A. Jan. 13.*

*594 Day, B. Jan. 14. 24 C.P.*

*604 " " " 16. " "*

*605 Night " " 16. " "*

|   | 577  | 578  | 585  | 591  | 593  | 594  | 604 | 605 |
|---|------|------|------|------|------|------|-----|-----|
| 1 | 760  | 1145 | 160  |      | 410  | 95   | 45  | 95  |
| 2 | 1795 | 1415 | 595  |      | 490  | 215  | 315 | 300 |
| 3 | 3330 |      | 2120 | 1225 | 1085 | 380  | 450 | 496 |
| 4 |      |      | 2275 | 1335 | 1165 | 730  | 570 | 570 |
| 5 |      |      | 2425 | 1350 | 1350 | 485  | 520 | 520 |
| 6 |      |      |      | 1405 | 1990 | 670  | 580 | 570 |
| 7 |      |      |      | 1605 |      | 1155 | 660 | 875 |
| 8 |      |      |      | 4120 |      | 7315 |     | 905 |

*577 Sprung high heat*

*578 " very "*

*Yours truly,  
J. P. Marshall.*

When are you going to  
fill up a train on the  
elevator lighter or electrolytic  
Gould's dept has that &  
they could do it any time -  
don't think there is much money

or it could don't pay  
anything =

Will have 3 miles  
Electric RR running at  
Woods in 4 weeks  
Woods near locomotive tonight

you are mistaken about Gould not  
paying anything - ~~but~~ when you  
are ready with that engine let me  
know and give Gould a half a  
percent of the price - It may be very  
profitable to all 3 of us -

The biggest thing <sup>of course</sup> outside of Electric R

Lowry & Faber will tell  
 you that his Electric R is  
 a mere toy & fair whereas  
 it requires a 100 hp or  
 Electric for Electric & one that  
 will not get out of order

Don't forget to let me know when  
 you are entirely ready so I can  
 take Gould out to sea - we  
 want it - I will take care of  
 the rest - all right

Can take you over the road  
 at 50 miles per hour in a 10 hp  
 car. Electric & 2000 miles

Electricity taken from the rails  
 to run the London Continuous Electric  
 system at all the stations of  
 C. & G. I want the first chance  
 at it for an order. Between has been  
 here and over the roads with their wires  
 but they can make more money by the Electric

## THE EDISON ELECTRIC LAMP CO.

Thos. A. Edison,  
Chas. Bushong,  
Frederic R. Upton,  
Edward H. Johnson.

Menlo Park, N. J.

Jan 18<sup>th</sup> 1882

T. A. Edison Esq.  
Record of the 27 lamps set up at system  
candle - up to 7 AM Jan 18<sup>th</sup>

| Order | Date set up      | Date broken   | Time      |
|-------|------------------|---------------|-----------|
| 525   | 12-M Nov 19      | 1 AM Dec 6    | 239 - 00  |
| 526   | 5 P.M. Nov 18    |               | 743 - 45- |
| 528   | 1-55 P.M. Nov 21 |               | 713 - 10  |
| 529   | 2 P.M. Nov 23    |               | 665 - 55- |
| 531   | 2 P.M. Nov 23    |               | 665 - 55- |
| 532   | 2 P.M. Nov 23    |               | 665 - 55- |
| 533   | 4-40 P.M. Nov 28 | 5 AM. Jan 14  | 625 - 45- |
| 534   | 4-40 P.M. Nov 28 | 3 P.M. Dec 16 | 347 - 50  |
| 535   | 1-30 P.M. Nov 29 |               | 620 - 15  |
| 536   | 2 P.M. Nov 29    |               | 619 - 25- |
| 538   | 1-45 P.M. Nov 30 |               | 596 - 20  |
| 539   | 2-70 P.M. Nov 30 |               | 595 - 55- |
| 542   | 4-15 P.M. Dec 5  |               | 573 - 10  |
| 543   | 10-20 AM. Dec 3  |               | 528 - 40  |
| 546   | 4-25 P.M. Dec 5  |               | 528 -     |
| 547   | 3-15 P.M. Dec 5  |               | 514 - 10  |
| 548   | 11-25 AM. Dec 8  |               | 448 - 10  |
| 551   | 11 AM. Dec 13    |               | 388 - 50  |

Grand Central  
July 18, 1932

Can you haul 4 cars 100 passengers each  
and start them out quick from a station.

Can give you 100 indicated hp when  
running @ 250 " " " "

to start - Electric Locomotives are very  
powerful in starting & proposed to  
use small extra motor to work

vacuum pump for brakes so no  
cars necessary - that will do

Electric Locomotives are  
Loco weight about 100 tons less than 4000

# THE EDISON ELECTRIC LAMP CO.,

Thomas A. Edison,  
 Chief Inventor,  
 Francis R. Upton,  
 Edward H. Johnson.

Menlo Park, N. J., \_\_\_\_\_ 188

*Record of 16 candle lamps continued*

|                |                 |        |
|----------------|-----------------|--------|
| 552            | 8-45 AM. Dec 14 | 344-20 |
| 553            | 2 PM Dec 14     | 339-05 |
| 554            | 11-AM Dec 12    | 388-50 |
| 558            | 8-40 AM Dec 14  | 344-25 |
| 559            | 10-35 Dec 12    | 389-15 |
| 561            | 8-40 AM Dec 20  | 240-40 |
| 562            | 8-40 AM Dec 19  | 264-15 |
| 563            | 8-40 AM Dec 20  | 240-40 |
| <i>Average</i> |                 | 481-40 |

# THE EDISON ELECTRIC LAMP CO.,

Thos. A. Edison,  
 Chas. Bechtel,  
 Amanda R. Upton,  
 Edward H. Johnson.

*W*

Menlo Park, N. J., January 21 1882

Mr. P. A. Edison,

Dear Sir,

Please find below the

48 x 24 candle tests up to 3-00 P.M. to-day  
 606 - Day run B. lamps Jan 17. 24 candles.  
 607 - Night " " " " " "  
 608 - Day " " " " 18 " "  
 609 - Night " " " " " "  
 610 - Day " " " " 19 " "  
 611 - Night " " " " " "

|   | 577  | 585  | 593  | 604  | 606  | 607  | 608  | 609  | 610 | 611 |
|---|------|------|------|------|------|------|------|------|-----|-----|
| 1 |      |      |      |      | 60   | 55   | 150  | 215  | 60  | 80  |
| 2 |      |      |      |      | 105  | 60   | 165  | 235  | 125 | 115 |
| 3 |      |      |      |      | 260  | 110  | 180  | 315  | 255 | 190 |
| 4 |      |      |      |      | 405  | 355  | 240  | 395  | 270 | 250 |
| 5 | 6335 |      |      |      | 505  | 385  | 245  | 1130 | 280 | 295 |
| 6 |      | 2625 |      |      | 2410 | 1115 | 450  | 1220 | 350 |     |
| 7 |      |      | 2810 |      |      | 1205 | 1220 | 1455 | 500 |     |
| 8 |      |      | 3030 | 1505 |      |      |      |      | 885 |     |

Yours truly,  
 J. Marshall

*Pell* THE EDISON ELECTRIC LAMP CO.,

Thomas A. Edison,  
Chas. Batchelor,  
Francis B. Spoon,  
Edward M. Johnson.

Menlo Park, N. J., *January 26* 1882.

Mr. T. A. Edison,

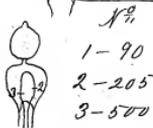
Dear Sir,

Please find below the  
record of the special experimental lamps at  
10<sup>00</sup> P. M. to-day  
N<sup>o</sup>.



1-565

2 still going 1035 mins



N<sup>o</sup>.

1-90

2-205

3-500

1 arc'd



Subs half way up  
carbon.  
1 arc'd

1-60

2-490



All arc'd

1-85

2-115

3-120

4-125

5-150

6-155

7-175

8-205

9-250

10-330



Shot of glass be-  
tween carbons  
All arc'd but  
one which is going  
at 1035 mins.

1-50

2-55

3-55

4-225

Large bulb lamp lasted 365 mins. & broke on  
positive side. Yours truly J. Marshall.


 THE EDISON LAMP CO.,

 Thos. A. Edison,  
 Chas. Batchelor,  
 Francis R. Upton,  
 Edward H. Johnson.
Menlo Park, N. J., *February 1*, 1882

Mr. T. A. Edison,

Dear Sir,

Owing to your experiments there were no regular lamps tested for week ending Jan 28.

Please find enclosed the record of this week's lamps up to 3-00 P.M. To day

635 - Day run A & B Jan. 30.  
 636 - " " " " " 31.  
 637 - Night " " " " 31.  
 639 - Day " " " Feb. 1.  
 640 - Night " " " " 1.  
 641 - Day " " " " 2.  
 642 - Night " " " " 2.

|    |      |      |      |      |      |     |     |
|----|------|------|------|------|------|-----|-----|
|    | 635  | 636  | 637  | 639  | 640  | 641 | 642 |
| 1  | 55   | 55   | 130  | 250  | 370  | 225 | 160 |
| 2  | 265  | 75   | 525  | 990  | 615  | 255 | 440 |
| 3  | 370  | 160  | 910  | 1135 | 1915 | 270 |     |
| 4  | 635  | 160  | 1620 | 1180 | 1640 | 440 |     |
| 5  | 695  | 180  |      | 1200 | 1880 | 655 |     |
| 6  | 720  | 630  |      | 1360 |      | 815 |     |
| 7  | 795  | 775  |      | 1545 |      |     |     |
| 8  | 1555 | 825  |      | 1710 |      |     |     |
| 9  |      | 990  |      |      |      |     |     |
| 10 |      | 1320 |      |      |      |     |     |

| Order O.I.C. |       |        |
|--------------|-------|--------|
| 1-115        | 4-235 | 7-1600 |
| 2-160        | 5-245 | 8-2520 |
| 3-160        | 6-580 | 9-2860 |
| 10-4495      |       |        |

| Order OX |        |        |
|----------|--------|--------|
| 1-135    | 4-360  | 7-2020 |
| 2-170    | 5-990  | 8-2185 |
| 3-215    | 6-1540 | 9-3785 |
| 10-6400  |        |        |

| Order Ed. N° 1 |        |        |
|----------------|--------|--------|
| 1-65           | 4-215  | 7-1905 |
| 2-85           | 5-430  | 8-2835 |
| 3-175          | 6-1760 | 9-2855 |
| 10-3095        |        |        |

| 655-Reg. <sup>Ampt</sup> A & B Feb 7, 1882 |        |        |
|--------------------------------------------|--------|--------|
| 1-835                                      | 3-2135 | 5-3175 |
| 2-1070                                     | 4-2970 | 6-3585 |

| 654-Reg. day A & B Feb 7, 1882 |        |        |
|--------------------------------|--------|--------|
| 1-575                          | 3-1195 | 5-2405 |
| 2-1010                         | 4-1905 | 6-2640 |

| 24 C.P.<br>656-Reg. day B Feb 1882 |        |        |
|------------------------------------|--------|--------|
| 1-420                              | 3-1610 | 5-3720 |
| 2-1215                             | 4-2320 |        |

| 24 48 C.P.<br>657 Reg. Night A & B Feb 8, 1882 |        |        |
|------------------------------------------------|--------|--------|
| 1-525                                          | 4-1930 | 7-3880 |
| 2-1380                                         | 5-3040 | 8-4245 |
| 3-1545                                         | 6-3065 |        |

| 24 48 C.P.<br>659 Reg. Day A & B Feb 9, 1882 |        |  |
|----------------------------------------------|--------|--|
| 1-180                                        | 4-1990 |  |
| 2-485                                        | 5-2895 |  |
| 3-1900                                       | 6-3045 |  |

| 24 48 C.P.<br>662 Reg. Night A & B Feb 10, 1882 |        |        |
|-------------------------------------------------|--------|--------|
| 1-305                                           | 4-1030 | 7-1475 |
| 2-575                                           | 5-1130 | 8-2945 |
| 3-830                                           | 6-1225 |        |

Camp Lee  
July 7, 82

Record

Camp Lee  
July 8, 82

Camp Lee

|      |    |      |    |
|------|----|------|----|
| 1001 | 1  | 1001 | 1  |
| 1002 | 2  | 1002 | 2  |
| 1003 | 3  | 1003 | 3  |
| 1004 | 4  | 1004 | 4  |
| 1005 | 5  | 1005 | 5  |
| 1006 | 6  | 1006 | 6  |
| 1007 | 7  | 1007 | 7  |
| 1008 | 8  | 1008 | 8  |
| 1009 | 9  | 1009 | 9  |
| 1010 | 10 | 1010 | 10 |

## THE EDISON LAMP CO.,

Mento Park, N. J. *March 21* 1883

Mr. Edison Esq.

#65 Fifth - Ave.

New York,

Dear Sir,

Below find list of lamps  
burning at 16 Candles

| Order | Started              | Broken | Life               |
|-------|----------------------|--------|--------------------|
| 525   | 12 <sup>Wk</sup> Dec | 19     | 239 -              |
| 526   | 5 P. Wk. "           | 18     | 1838 - 05          |
| 531   | 2 " " "              | 23     | 797 - 20           |
| 533   | 4-40 P. Wk. "        | 28     | 625 - 45           |
| 534   | 4-40 " " "           | "      | 347 - 50           |
| 535   | 1-30 " " "           | 29     | 1717 - 35          |
| 536   | 2 " " "              | 29     | 1713 - 45          |
| 539   | 2-10 " " "           | 30     | 1690 - 15          |
| 542   | 4-15 " " Dec         | 30     | 522 -              |
| 543   | 10-20 P. Wk. "       | 3      | 1462 - 50          |
| 544   | 4-25 P. Wk. "        | 5      | 1607 - 20          |
| 547   | 3-15 " " "           | 5      | 683 - 25           |
| 548   | 11-25 P. Wk. "       | 8      | 1483 - 35          |
| 549   | 11-10 " " "          | 8      | 655 - 25           |
| 551   | 11 CA. Wk. "         | 12     | 1483 - 10          |
| 552   | 8-45 " " "           | 14     | 1438 - 40          |
| 553   | 2 P. Wk. "           | 14     | 1438 - 25          |
| 554   | 11-CA. Wk. "         | 12     | 9. A. Wk. March 17 |
| 558   | 8-40 " " "           | 14     | 1438 - 15          |
| 559   | 10-35 " " "          | 12     | 12. P. Wk. Feb 27  |
| 561   | 8-40 " " "           | 20     | 10-CA. Wk. March 9 |
| 562   | 8-40 " " "           | 19     | 13.58 - 35         |
| 563   | 8-40 " " "           | 20     | 10-CA. Wk. Feb 21  |

These are  
10 1/2 per hp.

Storage so far 11.75 = 45

23 started  
10 still going

THE EDISON LAMP CO.,

Monte Park, N. J., \_\_\_\_\_ 188

| order   | <sup>20</sup> Started | Broke              | test<br>Life |
|---------|-----------------------|--------------------|--------------|
| 9       | 5-40 P. W. Feb 7.     |                    | 726-20       |
| 2       | 10-45 A. W. " 15      |                    | 586-25       |
| 3       | 10-45 " " " "         |                    | 586-25       |
| 4       | 10-45 " " " "         | 11-30 A. W. Feb 16 | 24-15        |
| 5       | 10-45 " " " "         |                    | 586-15       |
| 6       | 8 A. W. " 16          |                    | 563-40       |
| 7       | 6-30 P. W. " 17       |                    | 529-40       |
| 8       | 10-30 A. W. " 23      | 6 A. W. March 9    | 252-20       |
| 9       | 10-15 " " " "         | 2 P. W. " 18       | 348-10       |
| 10      | 9-40 " " " 24         |                    | 435-15       |
| 11      | 9-25 " " " "          |                    | 435-30       |
| Average |                       |                    | 461-18       |

8 still going  
 These are 10 1/2 inch lamps  
 3 broken

THE EDISON LAMP CO.,

East Newark, N. J., Oct 14<sup>th</sup> 1882

Gauge tests on pumps —



Pump with straight fall —  
 Clean — nearly new — dryer dry —  
 No 11 fall tube —

|            |       |     |              |
|------------|-------|-----|--------------|
| Solid tube | 10-00 | vac | 1/30 000     |
|            | 11-15 | "   | 1/115 000    |
|            | 11-40 | "   | 1/280 000    |
|            | 12-40 | "   | 1/380 000    |
|            | 2-40  | "   | 1/15 000 000 |

Pumps same style as above — but dirty —  
 Air hangs in tube till vacuum gets  
 good — dryer has crust on it —

|            |       |     |            |
|------------|-------|-----|------------|
| Solid tube | 10-25 | vac | 1/35 000   |
|            | 10-35 | "   | 1/58 000   |
|            | 11-   |     | 1/240 000  |
|            | 12-   |     | 1/1400 000 |
|            | 1-    |     | 1/2300 000 |
|            | 2-45  |     | 1/3370 000 |

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188



Style of pumps shown in sketch  
Fall tube clean - pumps nearly new.  
No 11 fall tube - dryer dry

|            |       |     |           |
|------------|-------|-----|-----------|
| Solid tube | 10-35 | vac | 1/40000   |
|            | 11-30 | "   | 1/560000  |
|            | 12-   | "   | 1/800000  |
|            | 1-    | "   | 1/2300000 |

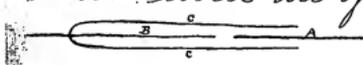
At 2 the difference in the heights of the two columns was so small that it could not be detected by the eye at the highest point at which the readings agreed with all below it - indicating a perfect vacuum or the presence of a condensable vapor -

J. M. Howell

THE EDISON LAMP CO.,

East Newark, N. J. Oct 19 1882

Phenomena observed in spark gauge in which wires are of platinum & shaped thus



A single wire  
B middle prong  
c.e. side prongs

at start sparks passes between point of single wire and point of middle prong - The blue gradually spreads out along center prong - when it has spread about  $\frac{1}{4}$  inch it appears on nearest side prong - opposite space between point of single wire & point of middle prong - at the same time becoming fainter as <sup>center</sup> single prong it now spreads along side prong in both directions - as it spreads toward end of the prong the single wire between the prongs shows a pinkish luster - blue now appears on other side prong and spreads on both side prongs and middle prong until all are covered with the blue halo which begins to enlarge until the whole tube as far

THE EDISON LAMP CO.,

East Newark, N. J. \_\_\_\_\_ 188

as the ends of the side prongs is filled with the blue phosphorene the rest of the tube and the single wire being non-luminous - The glow now becomes stratified - being brightest at the junction of the middle prong with the side prong - and in two bands near the glass in a plane perpendicular to the plane of the 3 prongs - The tube now assumes a pinkish tinge which fades into a pale green and disappears leaving the tube dark

2

Vacuum broken - induction coil corrected  
Spark first passes between points of single wire and middle prong - blue creeps along single wire, and as it spreads the side prong opposite the blue shows a pinkish luster when blue has spread & covers all of single wire - both prongs opposite

## THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

the single wire show the pinkish blue  
 luster - Blue now spreads in vicinity  
 of single wire, and the pinkish  
 tinge leaves side prongs - The  
 blue now fills tube as far as end  
 of single wire while the rest of  
 the tube remains dark - Blue now  
 fades to a pinkish then to a  
 faint blue which fills end of  
 tube around single wire and  
 imparts to glass a light green  
 color - this disappears suddenly  
 leaving the tube dark -

J. M. Howell

THE EDISON LAMP CO.,

East Newark, N. J., Oct 20 1882

Six lamps made from enclosed diagram

No 1 copper tube touched positive clamp - vac  
not put as pump -

No 2 Arid when on 110 Volt line -

No 3 Arid when put up on 3<sup>d</sup> line -

Nos 4 + 5 were worked regularly - the blue  
showed on clamps filling copper tubes  
& projecting out of top of tubes, although  
it rested on the copper tubes plainly. It  
did not arc or otherwise affect the  
lamps in any way, they worked out  
regularly and lamps sealed off.

No 6 was worked high on 3<sup>d</sup> line before  
vacuum had gotten good after working  
on 2<sup>d</sup> line - showed a large bunch of  
blue which played around clamp &  
copper tube for some time but had

THE EDISON LAMP CO.,

East Newark, N. J., \_\_\_\_\_ 188

no visible affect on lamp - This lamp  
was worked so purposely to see the  
affect of big blue on the copper tube -  
The carbon warped until it touched the  
edge of copper tube - burning off at  
that point - The short end of the car-  
bon remaining lighted - the current  
passing through tube & wire to neg -

No 4 & 5 mm set up at 48 candles  
one burned 355 min the other 505 min  
both globe should blacken on entire  
inner surface, but especially on globe  
nearest copper tube and above its up-  
per edge - both broke just above partition clamp  
Inside surface of copper tube more dis-  
colored above level of top of clamp - being  
a metallic blue color - which could be  
rubbed off with the thumb nail -

J. M. Howell

THE EDISON LAMP CO.,

East Newark, N. J., Oct 20 1882

Two lamps with double bulbs - the space between bulbs being filled with water - the positive of one lamp and the negative of the other being connected with the water



The lamp with positive wire connected with water burned 560 minutes at 64 candles the water boiling - the lamp looked well - showed no blue and broke naturally - the globe being quite black

The lamp with negative wire connected to water also looked well, and burned 220 minutes breaking naturally - the globe being quite black -

J. M. Hall

THE EDISON LAMP CO.,

East Newark, N. J., Oct 20 1882

Lamps exhausted 3 hours without current - sealed off without current then worked up to a dull red in about 5 mins + then up high in 5 mins more - then set up for life test -

Brought up slowly on 1<sup>st</sup> line after sealing off  
No 4 burnt off on full 55 Volt line -

On 2<sup>d</sup> line (115 Volts) all show bad blue on 3 it hugs clamp closely - on other 2 it is bright & lively - on one

On 3<sup>d</sup> line No 5 shows plenty of blue and arc violently bursting globe + inside part  
No 3 shows no blue on clamp but plenty on globe and arc violently  
No 1 shows plenty of lively blue which cleans negative clamp and blackens position does not work off

THE EDISON LAMP CO.,

East Newark, N. J. \_\_\_\_\_ 188

No 2 shows plenty of blue which surrounds clamp its entire length clinging closely to it -

No 6 shows bright blue which is gathered at top of clamps - does not work out

Set up at 64 candles - Blue works off of 146 but hugs clamps closely as 2 backing the few clamps badly - 146 are blue in globe No 2 is clear - all make naturally - no acc- in 50-80 + 95 minutes

THE EDISON LAMP CO.,

RECEIVED  
OCT 23 1882  
ANSWERED

East Newark, N. J., Oct 20 1882

FILE No. 11.....188.....

Lamps exhausted for 3 hours without current sealed off without lighting up set up at 64 candles —

Nos 1-3-4-6 show bright lively blue on clamps which work out and leave the globe blue —

No 4 and in 10 minutes the rest broke naturally in - 25-55-70 minutes —

Nos. 3 & 5 show close hugging blue which does not leave clamps - The globe is free from blue - These lamps burn 245-+900 minutes at end of which the clamps that the blue rested on are very black while the globe are free from any blacking. They die natural death - The candle power of these lamps plays out very fast - not from blacking of the globe but from falling off in the vacuum —

J. M. Howell

# THE EDISON LAMP COMPANY,

RECEIVED  
 NOV 2 1882  
 ANSWERED

Mr. T. A. Edson

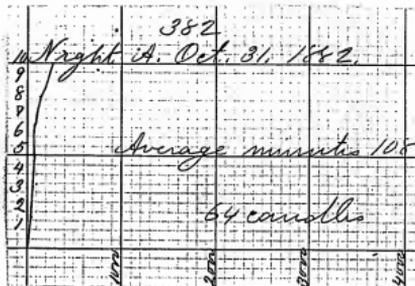
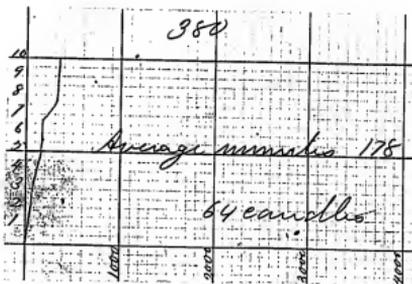
FILE No. 4. Dear Sir

Between Oct. 18, & Oct. 28, there were 85 lamps from pumps with straight fall set up, & during the same time 96 regulars were set up.

The average life of straight fall was 241 minutes & 5 lamps acid. The average life of regulars was 289 minutes & 3 lamps acid.

Straight fall pumps give 3 less lamps in 24 hours than our regular style.

Yours truly  
 J. T. Marshall



|                         |               |     |
|-------------------------|---------------|-----|
| Lamp Counting Room      |               |     |
| Nov 1-8-82              |               |     |
| Candles Consumed of 100 |               |     |
| A.                      | 45 + 3 + 2 =  | 50  |
| B.                      | 39 + 11 + 2 = | 50  |
|                         |               | 100 |
| D. Parry                |               |     |

THE EDISON LAMP COMPANY,

Harrison, N. J., Nov. 6. 1882

Mr. F. A. Edison,

Dear Sir,

I have been looking over my books to see the effect of the dullness or brightness of the clamps on the life of the lamps.

The lamps taken are all the regular 8 x 13 1/2, 8 x 17, & 7 1/4 x 13 1/2 A & B lamps from June 10, 1882 to Nov. 1, 1882.

The following table is the result.

See sheet No. 2.

THE EDISON LAMP COMPANY,

Harrison, N. J., \_\_\_\_\_ 1882

b means bright.  
ad means slightly dull.  
d means dull.

|           | No. of lamps | Life in minutes |
|-----------|--------------|-----------------|
| + b - b   | 666          | 322.4           |
| + b - ad  | 94           | 330.1           |
| + b - d   | 81           | 315.8           |
| + ad - b  | 87           | 307.2           |
| + ad - ad | 103          | 343.1           |
| + ad - d  | 11           | 127.6           |
| + d - b   | 52           | 381.3           |
| + d - ad  | 18           | 286.1           |
| + d - d   | 148          | 216.5           |
| Total     | 1260         |                 |
| Average   |              | 310.8           |

No experimental lamps are included in this table.  
J. F. Marshall

THE EDISON LAMP CO.,

East Newark, N. J. Nov 8<sup>th</sup> 1882

Heights of the mercurial column in inches corresponding to different spark-gauge phenomena -

|                                 |                     |
|---------------------------------|---------------------|
| Blue begins to spread           | 20. inches          |
| Blue spreads $\frac{1}{4}$ inch | 29 $\frac{9}{8}$ "  |
| " " $\frac{1}{2}$ "             | 30 "                |
| Blue begins to diffuse          | 30 $\frac{3}{16}$ " |
| Blue fills gauge                | 30 $\frac{1}{4}$ "  |
| Blue disappears                 | 30 $\frac{5}{16}$ " |
| Solid tube                      | 30 $\frac{3}{8}$ "  |

Observations repeated 3 times -

J. Maxwell

516

## THE EDISON LAMP CO.,

East Newark, N. J. Nov 9<sup>th</sup> 1882

Heights of the mercurial column in niches  
corresponding to the varying phenomena of  
blue on the clasp -

Lamps worked on full 4<sup>th</sup> line (210 Volts) at 28 $\frac{3}{4}$ "  
shows no blue on clasp - clear white in globe

Left burning high -

Blue appears at top of clasp - at 28 $\frac{15}{16}$ "

Close hugging blue covers  $\frac{1}{2}$  of clasp at 29 $\frac{1}{32}$ "

Spreads & covers whole clasp at 29 $\frac{9}{16}$ "

Grows thicker on top half - at 30"

Begins to bunch + jump at 30 $\frac{3}{16}$ "

Blue disappears at 30 $\frac{7}{32}$ "

Tube solid 30 $\frac{3}{8}$ "

J. Rowell

Nov 18<sup>th</sup>

Willow fibres  $7\frac{1}{4} \times 13\frac{1}{2} \times 3''$

8 Candles

93 - 221

103 $\frac{1}{2}$  - 228

90 $\frac{1}{2}$  - 186

95 - 202

97 $\frac{1}{2}$  - 217

125 - 340

Average Yelts - 100.6

Average Purity - 232.3

17.1 per H<sub>2</sub>

136.8 per H<sub>2</sub>

Willow fibres  $8 \times 17 \times 3''$

8 Candles

97 - 272

111 - 321

106 - 291

Average Yelts - 104.6

Average Purity - 294.6

16.1 per H<sub>2</sub>

128.8 Candles per H<sub>2</sub>

THE EDISON LAMP CO.,

East Newark, N. J., Nov 22<sup>d</sup> 1882

Economy of lamps showing different stages of blue on the clasp -

1<sup>st</sup> stage - Blue on tip of clasp only - close hugging

130 - 148 - 5060

120 - 168 - 3800

129 - 161 - 4575

124 - 167 - 4075

Average ft. lb. 4375 -

7.54 per ft.

2<sup>nd</sup> stage - Close hugging blue covering clasp -

114 - 155 - 3728

117 - 160 - 3790

119 - 146 - 4300

135 - 169 - 4760

Average ft. lb. 4143

7.96 per ft.

3<sup>rd</sup> stage - Blue moving about clasp in patch

117 - 164 - 3700

119 - 142 - 4275

127 - 150 - 4760

108 - 152 - 3400

Average ft. lb. 4031

8.18 per ft.

Lamps 7 1/4 x 13 1/2 - 6" -

J. M. Howell

Outside resistance necessary to  
bring a lamp (8x13 1/2) down from  
16 candles to a visible red  
in a 99 Volt circuit

| C.P.           | Res   |
|----------------|-------|
| 16.            | 0     |
| 14             | 2.8   |
| 12             | 6.2   |
| 10             | 11.62 |
| 8              | 16.8  |
| 6              | 21.58 |
| 4              | 30.7  |
| 3              | 38.54 |
| 2              | 48.   |
| 1              | 61.9  |
| whitish yellow | 196   |
| bright yellow  | 294   |
| yellow         | 408   |
| bright red     | 554   |
| red            | 680   |
| dull red       | 813   |
| just visible   | 980   |

12-4-82 J.M.M.

Outside resistance necessary  
to bring a lamp <sup>8x13 1/2</sup> down from 48  
candles to a visible red  
in a 117 Volt circuit

| C.P. | Res   | C.P.           | Res   |
|------|-------|----------------|-------|
| 48   | 0     | 10             | 37.12 |
| 46   | 96    | 8              | 45.80 |
| 44   | 166   | 6              | 51.46 |
| 42   | 28    | 4              | 62.74 |
| 40   | 367   | 3              | 72.38 |
| 38   | 4.7   | 2              | 84.   |
| 36   | 5.78  | 1              | 98.45 |
| 34   | 6.96  |                |       |
| 32   | 8.26  | whitish yellow | 233   |
| 30   | 9.6   | bright yellow  | 382   |
| 28   | 11.4  | yellow         | 520   |
| 26   | 12.96 | bright red     | 693   |
| 24   | 14.8  | red            | 842   |
| 22   | 16.64 | dull red       | 1000  |
| 20   | 18.99 | just visible   | 1200  |
| 18   | 21.77 |                |       |
| 16   | 24.66 |                |       |
| 14   | 28    |                |       |
| 12   | 32.48 |                |       |

12-4-82 J.M.M.

THE EDISON LAMP CO.,

East Newark, N. J., Dec 6<sup>th</sup> 1882

Resistance of a lamp - cold - at different stages of working on the pump -

"A" lamp. 0067.001925 - x 6.

Measurements made Dec. 5<sup>th</sup> '82

|                                                                                              |         |
|----------------------------------------------------------------------------------------------|---------|
| Before putting on pump                                                                       | 444     |
| Solid tube                                                                                   | 440     |
| Switched in - tube just perceptibly broken - cold                                            | 439     |
| 2 lamps out - tube slightly broken - solid - cold                                            | 439     |
| 3 more lamps out - slightly broken - carbon red - solid - cold                               | 438     |
| 2 more lamps out - few small bubbles - carbon yellow - cold                                  | 436 1/2 |
| 3 more lamps out - few small bubbles - carbon bright yellow - cold                           | 433     |
| 2 more lamps out - few small bubbles in full tube - solid - cold                             | 430     |
| 2 spools out - few small bubbles in full tube - solid - cold                                 | 426 1/2 |
| 3 more spools out - few small bubbles - solid - cold                                         | 422     |
| 3 more spools out - a number of small bubbles - solid - cold                                 | 418     |
| Worked on full 2 <sup>d</sup> line - tube a little broken - solid - cold                     | 417     |
| Worked on 3 <sup>d</sup> line till blue appeared on clamp and tube was broken - solid - cold | 417     |
| Worked high - blue shown + tube broke                                                        | 419     |
| Worked high - no blue - tube slightly broken                                                 | 422     |
| Worked on full 3 <sup>d</sup> line - tube not broken - no blue                               | 424     |
| Worked on full 3 <sup>d</sup> line - tube not broken - no blue                               | 426     |
| lamp then broke - <i>not</i>                                                                 |         |

THE EDISON LAMP CO.,

East Newark, N. J. Dec 6<sup>th</sup> 1882

Resistance of a lamp - cold - at different  
stages of working on the pumps -

"A" lamp .008 x .0135

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| First solid tube                                                   | 329 |
| Switch put in - tube solid - cold -                                | 310 |
| 2 lamps cut out solid - cold -                                     | 297 |
| 4 lamps cut out carbon dull red - solid - cold                     | 284 |
| 6 lamps cut out carbon bright red - solid - cold                   | 260 |
| 10 lamps out - carbon milk lit up - solid - cold -                 | 240 |
| 3 spools cut out of box solid - cold                               | 231 |
| Worked on full 2 <sup>d</sup> line - burned at 14.0 solid - cold - | 226 |
| Worked on 3 <sup>d</sup> line - tube not broken - solid - cold -   | 226 |
| Worked high on 3 <sup>d</sup> not broken - solid - cold            | 227 |
| Worked on full 3 <sup>d</sup> broken a little - solid - cold -     | 231 |
| Suspected high & sealed off - cold -                               | 233 |

These measurements were made last October  
J.M.

1  
No. 519-4 (8" 10 x 70)  
when first set up at 100  
candles took 104 volts  
with 12<sup>ohms</sup> outside resistance  
on the 150 volt line.

After burning 184 hours  
it sandown to 85 can-  
dles when it was taken  
down, the vacuum broken,  
the blackening burned off,  
and the lamp reexhaust-  
ed. \*

When set up again with  
the same outside resistance  
it took 105 volts & gave  
82 candles.

To give 104 candles re-  
quired 108 volts with  
11 ohms outside resistance.

2

The lamp was then  
left burning with the  
same outside resistance  
as when set up the first  
time.

At 5:00 P.M. Dec. 11. it  
was down to 84 candles  
& had burned a total  
of 191 hours & 30 min-  
utes

J. F. Marshall.

Resistance of a lamp at  
different stages of charac-  
ter - Measured cold

A - 8 x 1.3/2

|                                    |     |
|------------------------------------|-----|
| before start                       | 324 |
| solid tube                         | 329 |
| switch in - solid tube             | 310 |
| 2 lamps cut out                    | 297 |
| 4 " out - carbon dull rd.          | 284 |
| 6 " " carbon rd                    | 274 |
| 8 " " carbon bright rd             | 260 |
| all " " mll lighted                | 240 |
| 3 coils out                        | 231 |
| tube broken on 2 <sup>d</sup> line | 226 |
| worked on 3 <sup>d</sup> line      | 226 |
| worked high on 3 <sup>d</sup> line | 227 |
| worked very high on 3 <sup>d</sup> | 231 |
| inspected high                     |     |
| sealed off                         | 233 |

**1882. Electric Light - Edison Machine Works - General (D-82-033)**

This folder contains correspondence, agreements, shipping records, and other documents relating to the business of the Edison Machine Works in New York City, which manufactured dynamos and large electric motors for the Edison electric light system. Much of the correspondence is by Charles Dean, superintendent of the machine works, and by Charles Rocap, secretary.

Approximately 90 percent of the documents have been filmed. Routine correspondence from suppliers and correspondence relating to shipping instructions have not been filmed.



Form No. 44.

# NIGHT MESSAGE THE WESTERN UNION TELEGRAPH COMPANY.

The Company WILL NOT BE RESPONSIBLE for conditions existing in the field, which have been assumed to be the order of the following message.  
Errors can be corrected only by repeating a message back to the sending station for comparison, and the receiver will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Night Messages, and it is the responsibility of the sender to see that the message is received in its entirety.  
Messages in writing will be held in the office of the sender, and will be delivered by request of the sender, under the conditions named above.

THOS. T. ECKERT, General Manager.

*John D. ...* President.

| NUMBER | SENT BY | RECD BY     | CHECK |
|--------|---------|-------------|-------|
| 1410   | My      | Mr. Caspary |       |

Received at the WESTERN UNION BUILDING, 195 Broadway, New York. Jan 20 1882.

Dated: *Providence R.I. So.*

To: *Thos A Edison*

*to gift are my*

*we will finish the Engines*

*for London in three weeks*

*Armington & Sims*







Blank No. 1.

# THE WESTERN UNION TELEGRAPH COMPANY.

The Western Union Telegraph Company assumes only on condition that the sender, who is to be held responsible for the accuracy of the following message, will be held responsible for the accuracy of the following message, and will not hold the Company liable for errors or omissions in transmission, delivery or non-delivery of the message.

Philadelphia 21 1882

Received at 791 BROADWAY.

To J. W. Edison

READ THE NOTICE AT THE TOP.

65 - 5th Ave NY  
The worn and broken coupling called for an improved one and we have got this matured and in hand shall not lose a moment

Porter

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN 791 BROADWAY, near Tenth Street, WHERE ANY REPLY SHOULD BE SENT. Direct Wires.

Blank No. 1.

# THE WESTERN UNION TELEGRAPH COMPANY.

The Western Union Telegraph Company assumes only on condition that the sender, who is to be held responsible for the accuracy of the following message, will be held responsible for the accuracy of the following message, and will not hold the Company liable for errors or omissions in transmission, delivery or non-delivery of the message.

As to the accuracy of the message, the sender is to be held responsible.

Philadelphia 23 1882

Received at 791 BROADWAY.

To J. W. Edison

READ THE NOTICE AT THE TOP.

65 - 5th Ave  
Have written you

Porter

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN 791 BROADWAY, near Tenth Street, WHERE ANY REPLY SHOULD BE SENT. Direct Wires.

*E. Machine Works*

THE SOUTHWARK FOUNDRY AND MACHINE COMPANY.

*May 23. 82*

INCORPORATED IN ENGLAND  
The Porter-Allen High Speed Steam-Engine.

W. HERRICK, Pres. and Treas.  
C. T. PORTER, Vice-President.  
G. A. WATSON, Secretary.  
C. B. RICHARDS, Superintendent.

PHILADELPHIA *Jan 4 1882*

*T. A. Coria*

*Further drawing than shown  
of the  
of the  
the coupling. The plate is 2 1/2  
langer, in a drill bit, and wheel at  
center, and it turned with steel key  
to the shaft. The shaft is 1 1/2  
& fastened in a collar.  
This is a good job or steel is good for nothing.  
I suppose the steel would have  
been saved if the coupling had been  
made no by use of rings, as suggested by  
you.*

Dear Sir:

I enclose a sketch

of the proposed arrangement of

the coupling. The plate is 2 1/2

langer, in a drill bit, and wheel at

center, and it turned with steel key

to the shaft. The shaft is 1 1/2

& fastened in a collar.

SOUTHWESTERN FOUNDRY AND MACHINE COMPANY

information of the break. But the shaft and coupling got broken on Thursday, just at night. I did not see them till Friday morning and the thing looks good and careful.

Studied. I am following it up personally, and will have it done as soon as possible.

You will have to slot out the coupling on the shaft. The sketch shows the shape of the slot.



The depth and radius at the top face and 1/8" border at the bottom equal angles in each side and central.

Blank No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company is a member of the Western Union Telegraph System, Limited, the capital of which is paid up in full under the authority of the Government of the United States, and the Company will transmit their messages for service or delivery in accordance with the regulations of the Government.

This message is an UNREPEATED MESSAGE and is delivered by request of the sender, under the conditions stated there.

A. H. BRIDGES, Receiver.

NORVIN GREEN, President.

Dated Menlo Park, N.J. 1887

Received at 791 BROADWAY, Jan 24  
J. C. Mannington  
65 - 5th Ave

READ THE NOTICE AT THE TOP.

If dear wants drawings  
from Porter let him  
have it shall not be  
back till this afternoon  
A. Insull

IF THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN

**791 BROADWAY, near Tenth Street,**

WHERE ANY REPLY SHOULD BE SENT.

Direct Wires.

THOMAS A. EDISON,  
NO. 65 FIFTH AVENUE,

NEW YORK, *May 26* 1882

*Edison Machine Works*  
*Mr. Fisher*  
*Zinc works*  
*E. A. Fisher Esq.*  
*Zinc works*  
*Agt. Regus Co.*  
*13. Bowling Slip*  
*City*

Dear Sir

Referring to yours of  
May 20. Mr. Edison desires  
me to request you to send  
a sample for use, in his Office,  
to Francis Sells, Edison Machine  
Works, 104 South St. City.

*Yours Truly*

*Samuel Insull*  
*1882*

Jan. Foreman, Trust, and Treas.  
A. H. Pearson, Secretary.

OFFICE—Cor. Railroad Avenue and Slater St.  
P. O. Box 477.

**UNION BOLT WORKS,  
ENGINEERS AND FOUNDERS,  
RAILROAD AND MILL SUPPLIES,  
ARCHITECTURAL AND BRIDGE WORK.**

Works:—Railroad and Dale Avenues and Slater Streets,  
Paterson, N. J.

*Paterson, N. J.*  
*July 3, 1882*

*Saml Insell*

Dear Sir

We understand that  
Mr. Dean has made arrange-  
ments with Trip Dougherty of  
N. J. Iron Foundry to do the casting  
he had already given to us -  
We do not call this a fair deal  
and am confident from the little  
knowledge we have of you that  
it is a proceeding without your  
sanction. We have accounted  
you concerned in our own injury.

and Mr. Board has frequently  
told us he was so doing & we  
not know the amount it has been  
to us and it does seem to us  
a very peculiar proceeding to go  
aboard, while still. In my duty  
especially after giving us the order  
stating the patents had been sent  
to them canceling it. We are sure  
that these transactions are not  
permitted by you. but we feel  
obliged to call your attention  
to them - we enclose you original  
order & letter duplicates of which  
we believe have been sent to  
Messrs. Bostonsmith Doughty & Co

Very Resp<sup>ly</sup> J. P. Scarce

There can be no question about quality profit  
for Mr. Dixon has always been satisfied, and he has given  
them 2 tons to do what we would be glad to have contracted for today

[ENCLOSURE]

EDISON MACHINE WORKS.

104 Good St. Street.

New York, Jan 28<sup>th</sup> 1882

Union Bolt Works.

Paterson N. J.

Gentlemen

Enclosed we send you order #3004 for 18 castings, which please execute as quickly as possible.

I wish to explain to you that it will be necessary to make an alteration on the Pattern with legs on inside, before you can complete order.

You can cast 6 castings off of each pattern as they are, making 12, then cast. But I will desire to have 6 castings off of the Field pattern, with the legs "changed"; but I will give you further instructions about this, when you are ready, or in other words when you have the first 12 castings made, as mentioned above.

Yours truly

C. L. Deane  
Capt

P.S. Patterns sent by Fuller's express.

## EDISON MACHINE WORKS.

104 Goerck Street,

New York, Feb 7<sup>th</sup> 1882

J. A. Edison Esq  
 Menlo Park  
 N. J.

Dear Sir

Yours of the 21<sup>st</sup> rec'd -  
 We are going ahead with the freight lines. Selects was  
 promised us yesterday. We have telegraphed regarding it  
 We put the bars on the bar track.  
 tomorrow for another trial - If we can get the struts which  
 we have telegraphed Porter free for, we can run tomorrow  
 night.

The 125 Light M we will try our  
 best to have done by Saturday.

Macpherson & Willard wants \$2000.  
 more before they go ahead with the order for the large Cross  
 & Hepburn, but we have placed our half of this order with  
 another party who will have some for us very soon

We have placed the shafts with  
 some Phil<sup>a</sup> people - same price as standard bills at  
 the works in 60 days

We'll telegraph you as soon as  
 soon as engine is ready to run.

Very Resp<sup>ly</sup>

J. L. Swan

Blank No. 1.

# THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on condition, binding its liability, which have been accepted by the sender of the communication, that the sending station be open, and the Company will not be liable for errors or delays in transmission or delivery of messages and messages in an UNREPEATED MESSAGE and is delivered by request of the sender, under the usual conditions.

A. H. BHEWELL, Gen'l.      NORVIN GREENE, President.

Dated New York Feb. 9<sup>th</sup> 1882

Received at Wk 11.30 Am

To S. A. Edison

READ THE NOTICE AT THE TOP.

Worked hard and started six o'clock last night  
Saw one hour & found  
Piston rumped like a  
rip hammer on side of  
Cylinder. quids no fit up  
right corner head cut  
in very bad piston running  
when this occurred working  
around to fix these deficiencies  
Saw tonight sure if you  
come otherwise too much  
expense answer quick

Edison Machine Works

57 paid

Blank No. 1.

# THE WESTERN UNION TELEGRAPH COMPANY.

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A. H. BHEWELL, Gen'l.      NORVIN GREENE, President.

Dated Philad Pa 6 1882

Received at 791 BROADWAY. Feb-16

To S. A. Edison

READ THE NOTICE AT THE TOP.

Will ship Cylinder and  
new piston on Saturday  
Has not been time since  
it was received to finish  
sooner will box for ship  
Send us full shipping  
directions

Southwark Foundry  
and Mach Co

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN

791 BROADWAY, near Tenth Street,

WHERE ANY REPLY SHOULD BE SENT.

Direct Wires.

Form No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assumed to be the extent of the following message. Errors and omissions are not made only by reporting or through the negligence of the sender, and the company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

| NUMBER      | SENT BY                              | RECEIVED BY | CHECK                       |
|-------------|--------------------------------------|-------------|-----------------------------|
| 8           | W.M.                                 | H.S.        | 10 Paid                     |
| Received at | W.M. 2.52 P.M.                       |             | Feb. 25 <sup>th</sup> 1882. |
| Dated       | W.Y.                                 |             |                             |
| To          | J. A. Codrion                        |             |                             |
|             | Arrive left type at on               |             |                             |
|             | think for address in public office - |             |                             |
|             | Codrion Machine Works                |             |                             |

Form No. 1.

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This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

| NUMBER      | SENT BY                    | RECEIVED BY | CHECK                       |
|-------------|----------------------------|-------------|-----------------------------|
| 2           | W.M.                       | H.S.        | 13 Collected                |
| Received at | W.M.                       |             | Feb. 25 <sup>th</sup> 1882. |
| Dated       | W.Y.                       |             |                             |
| To          | Samuel Ansell              |             |                             |
|             | Arrive left - York         |             |                             |
|             | at clock will send mail by |             |                             |
|             | exp. tonight -             |             |                             |
|             | B.P. Mott                  |             |                             |

check No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only, on condition that the sender will pay the amount of the following message rates in advance, and the company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Night Messages, sent as provided in this notice, when the date is not corrected in writing within the time after sending the message. This is an UNREPEATED NIGHT MESSAGE, and is delivered by report of the sender, under the conditions named above.

A. M. BIRNEY, Secy. 876 NORVIN GREEN, President.  
Date Providence R.I. 4 1882

Received at 791 BROADWAY, nch 4  
Edward Insull  
65 5th Ave

READ THE NOTICE AT THE TOP.

London Engines about finished  
must have some Cash -  
Will be on to  
see you Monday  
Arrington

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN  
**791 BROADWAY, near Tenth Street,**  
WHERE ANY REPLY SHOULD BE SENT.  
Direct Wires.

Form No. 44.

**NIGHT MESSAGE.**  
**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only, on condition that the sender will pay the amount of the following message rates in advance, and the company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Night Messages, sent as provided in this notice, when the date is not corrected in writing within the time after sending the message. This is an UNREPEATED NIGHT MESSAGE, and is delivered by report of the sender, under the conditions named above.

THEO. F. SICKENT, General Manager. NORVIN GREEN, President.  
MEMBER SENT BY RECD BY CLECK  
177 Orissa 9 Paid Rate

Received at the WESTERN UNION BUILDING, 105 Broadway, New York. May 16 1882

Date: Providence R.I. 6  
To: Insull  
65 Fifth Ave. N.Y.  
Engines will be tested tomorrow  
& shipped at once  
Arrington & Sims

Blank No. 1

**THE WESTERN UNION TELEGRAPH COMPANY**

The Company's telegrams are sent by wire and are not subject to delay. It is not responsible for messages sent by wire which are not received. It is not responsible for messages sent by wire which are not received. It is not responsible for messages sent by wire which are not received.

The Company is not responsible for messages sent by wire which are not received. It is not responsible for messages sent by wire which are not received. It is not responsible for messages sent by wire which are not received.

A. H. GREEN, President.

Dated *Wednesday Oct 26* 1892  
Received at *791 BROADWAY, New York*  
*The Edison Electric Light Co*

*As 3 are,*

*Engine leaves by Steamer  
tonight at seven o'clock  
Arrington & Sons*

READ THE NOTICE AT THE TOP.

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN

**791 BROADWAY, near Tenth Street,**

WHERE ANY REPLY SHOULD BE SENT.

Direct Wires.



WORKS  
OF  
BUILDERS IRON FOUNDRY,  
15 COCKE STREET.

PROVIDENCE, R. I. March 21st 1882

B. L. Sparks Esq.

Dear Sir

Enclosed find bill looking of  $8\frac{1}{2} \times 10$  engine sent to Edison Machine Works 104 South St. New York.

Your second engine will have steam on in the morning. We expect to ship Thursday afternoon. We will advise you by telegraph.

Starting valves can be placed either way. We prefer hammer to low then stand the usual way. not "fore and aft." We send two cylinder oil cups and oil, and some person to start up the engine when you may want them.

Respectfully Yours

Amington & Sims

This is for  
B. L. Sparks  
90

Black No. 1

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company transmits and receives messages only on condition that the liability, which here is assumed by the sender of the message, is accepted by the receiver, and the Company will not be responsible for messages received in consequence of any error or omission on the part of the sender or receiver.

This message is not to be retransmitted and is delivered by request of the sender, under the conditions hereof.

A. H. HENNINGER, *115* EDWIN GREENE, President.

Date: *Philadelphia Pa 22* 1882

Received at: **75 BROADWAY.** *Mich 22*

To: *Edison*

READ THE NOTICE AT THE TOP.

*To 5<sup>th</sup> ave*

*Have sent another set  
by Express  
Southward Foundry  
& Machine Co*

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN

**791 BROADWAY, near Tenth Street,**

WHERE ANY REPLY SHOULD BE SENT.

Direct Wires.



WORKS  
AT  
BUILDERS IRON FOUNDRY,  
18 COSSO STREET.

Providence R. I. Mar 24 '82. —

Frank Merrill Esq

265 Fifth Avenue New York

Dear Sir, I enclose P/O of  
three engines shipped this day. As directed this was  
forwarded for the isolated lighting Co & you will please  
send the P/O to them — As you have already paid  
a part in  $\frac{1}{2}$  in charge you with both engines promising  
that you can arrange it with the isolated Co. As we  
explained to you in an oblig to charge \$750. each for three  
engines instead of the anticipated amt of \$500. —

As we are as hand up as ever may we ask for  
a remittance of bal \$500.

Yours truly,

Alvin S. Griffin  
Jr

The \$250 (part pay) will be out within the 10 days as  
promised. —



WORKS  
AT  
BULDER'S IRON FOUNDRY,  
18 Cowes Street.

PROVIDENCE, R. I. March 27 1882

Samuel Insull Esq.

Dear Sir

We have just received a telegram from Edison Machine Works concerning eccentric rod for your engine.

It is finished, and would have been sent, but I was waiting your order to go on, and start up the engine. I shall take it when I go.

Tell Charley Hughes I would like to see him. Believe me

Sincerely Yours,

Simd



RECEIVED  
APR 3 1882  
ANSWERED

RECEIVED  
APR 3 1882

WORKS  
at  
BUILDERS IRON FOUNDRY,  
18 CHURCH STREET.

Providence R. I. April 2<sup>nd</sup> 1882.

James Smith Esq

Market St  
Providence

APR 3 1882

My dear Sir, The enclosed bill for the engine. The second engine will go forward on Tuesday but as our pay day is Tuesday morning, I shall have to ask you to send me check to be paid here not later than that time, as it must demoralize my shop if I let the regular time for payment go. We tried hard to get this engine done so as to ship it yesterday but could not quite do it.

Truly  
Yours

Amos J. Jones  
Jr

Blank No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY**

This Company TRANSMITS and DELIVERS messages only on condition that the sender of the message shall pay the charges therefor in advance, and that the receiver of the message shall pay the charges therefor in advance, and that the sender of the message shall pay the charges therefor in advance, and that the receiver of the message shall pay the charges therefor in advance.

Date: Philadelphia Pa 3 2

Received at 791 BROADWAY.  
Edison 65 Blue

READ THE NOTICE AT THE TOP.

Please meet me at  
York st tomorrow  
about eleven o'clock

Chas J Boston

RECEIVED  
APR 3 1882

ANSWERED  
7.9.1882

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN

**791 BROADWAY, near Tenth Street,**

WHERE ANY REPLY SHOULD BE SENT.

Direct Wires.

Form No. 44.

**NIGHT MESSAGE.**  
**THE WESTERN UNION TELEGRAPH COMPANY.**

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THOS. T. BOKERT, General Manager. NORMAN GREEN, President.

NUMBER 182 SENT BY Hy 3 REC'D BY 28pd CHECK Person

Received at the WESTERN UNION BUILDING, 196 Broadway, New York. Apr 4 1882

Date: Providence Rd 4

To: Paul Insall  
65-5th Ave New York

Seventeen hundred fifty per Cars here for New York  
for foreign shipment eighteen hundred last  
Your Commission or Seventeen hundred & some  
to us not tested & boxed

RECEIVED  
APR 5 1882  
ANSWERED

Armington Sains

Blank No. 10

April 10

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions, limiting its liability, which have been accepted by the sender of the following message.

Messages are transmitted subject only to possible or apparent delay in the sending, delivery, or receipt, and the Company will not hold itself liable for errors or delays in transmission or delivery of telegraphic messages.

This message is an UNREPEATED MESSAGE and is delivered by request of the sender, subject to the conditions herein above.

A. E. BREWER, Body. *273 Broadway, New York*

Dated *Brookline Rd 10 1882*

RECEIVED  
791 BROADWAY, *Apr 10*

Received by *Small* *6 5 34 p*

Is ANSWERED

*What obligations will  
finish six engines for  
for Moore this month  
it depends on him.  
Can furnish one by  
mail first*

*Wellington*

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN  
**791 BROADWAY, near Tenth Street,**  
WHERE ANY REPLY SHOULD BE SENT.

Direct Wires.

READ THE NOTICE AT THE TOP



WORKS  
OF  
BUILDERS IRON FOUNDRY,  
13 CORNHILL STREET.

PROVIDENCE, R. I. April 10th 1882.

Samuel Inoull Esq.

Dear Sir

Your telegram received. Do meet our  
prayer roll and obligations which fell  
due about May 1st. we must finish  
six engines for Mr. Moore by that time.  
To do so we must strive every thing.  
This number includes one for you, also  
one "B" engine for Central Station.

The 13" X 13" for  
Central Station can be finished by May  
1st. together with some others, and we  
are disposed to put our entire force at  
your disposal and aid you in any  
manner you may desire. In fact your  
engine is more than half finished. What  
can we do for you?

Respectfully Yours  
Amington & Sims

EDISON MACHINE WORKS.

104 Goerck Street.

New York, April 12<sup>th</sup> 1882

J. A. Edison Esq.

Dear Sir. <sup>city</sup>

We started up last night with  
the intention of putting the current on.

We connected the fields the same way as they were  
connected on the London machine, but we could get  
nothing through them. We stayed until 11 $\frac{1}{2}$  o'clock.

We tried to get Clarke yesterday afternoon;  
but could not find him.

Hope there will be no disappointment about  
running to-night, for I want to move the machine  
so as to ~~to~~ put another one in its place.

Will run to-night, all night if necessary;  
but cannot commence running until the shop tools  
are shut off.

Yours Truly,

H. L. Dean Esq.

Blank No. 17

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS AND DELIVERS messages and communications by land, which have been accepted by the authorities of the countries through which they pass, and the Company will not be held liable for any delay or loss of messages or communications.

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A. B. BEVER, Secy. 76 NORVIN GREEN, Presd.

Date Providence R. I. 13 1882

Received 791 BROADWAY, Apr 13  
Thos. A. Edison

READ THE NOTICE AT THE TOP.

65 Day

If possible have Armington  
Small engine send via  
Liverpool so as to reach  
London as early as possible  
We may want to fill  
application for Patent  
Small

IF THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN  
791 BROADWAY, near Tenth Street,  
WHICH ANY REPLY SHOULD BE SENT.

Direct Wires.

Blank No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

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A. B. BEVER, Secy. 219 NORVIN GREEN, Presd.

Date Providence R. I. 13 1882

Received 791 BROADWAY, Apr 13  
Thos. A. Edison

65 Day

READ THE NOTICE AT THE TOP.

Edmonds and Gro Howard  
Control Armington Engine for  
foreign jointly. Latter is friend  
of Eaton & Deere one that  
it has not been bought in  
interest any particular Electric light  
Gov Howard has offered Armington all  
 requisite Capital. Develops some  
business stipulating Engine shall be  
full to all. Price as Howard

IF THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN  
791 BROADWAY, near Tenth Street,  
WHICH ANY REPLY SHOULD BE SENT.

Direct Wires.

*Recd* CHAS. B. CARMAN, <sup>600</sup> <sup>1000</sup>  
General and Commission Dealer in <sup>Apr 14 1882</sup>  
Timber, Piles, Dock Logs, &c.

—ALSO—  
Hewn Ohio Oak, White & Yellow Pine Timber,

120 LIBERTY STREET,

*Same Insull Esq* <sup>New York, Apr 14 1882</sup>

Dear Sir

Did you see that the arrangement was carried out in regard to the naming of Benjamin in Sudbury at Woodstock. Please let me know by mail at Woodstock or that I can send you the policies - Mr. Edson says he can't find or Benjamin's ~~particulars~~ from the record just as well as Benjamin's ~~particulars~~ <sup>is supposed to be</sup> ~~particulars~~ but I don't know ~~particulars~~  
J. W. Cannon

copy

(April 20/82)

Agnencia de Electricidade  
 de Lisboa e do Continente  
 de Lisboa  
 1871

Shipped: what to whom where Price each

| Shipped: | what      | to whom                    | where      | Price each |
|----------|-----------|----------------------------|------------|------------|
| Oct 4    | 3 3/4     | Oruel Morgan & Co          | London     | 550 00     |
| .        | 1 1/2     | do                         | .          | 12 000 00  |
| .        | 25 6 3/4  | do                         | .          | 550 00     |
| .        | 27 5 3/4  | do                         | .          | 550 00     |
| .        | 28 11 3/4 | do                         | .          | 550 00     |
| .        | 31 2 3/4  | do                         | .          | 550 00     |
| Nov 1    | 3 3/4     | do                         | .          | 550 00     |
| Jan 12   | 4 3/4     | do                         | .          | 550 00     |
| .        | 13 6 3/4  | do                         | .          | 550 00     |
| .        | 19 2 1/2  | do                         | .          | 350 00     |
| Feb 10   | 1 1/2     | do                         | .          | 13 000 00  |
| Apr 14   | 10 3/4    | Edison Elec. Light Co      | Paris      | 550 00     |
| 25       | 15 3/4    | do                         | .          | 550 00     |
| Sept 19  | 3 3/4     | Edison Elec. Light Co      | Paris      | 550 00     |
| .        | 24 4 3/4  | do                         | .          | 550 00     |
| Aug 29   | 1 2/4     | do                         | .          | 1 182 35   |
| Sept 2   | 1 1/2     | do                         | .          | 12 000 00  |
| Oct 20   | 1 3/4     | Rustkas & Bailey           | Strasbourg | 550 00     |
| Dec 31   | 6 3/4     | do                         | Hamburg    | 550 00     |
| Jan 20   | 5 3/4     | do                         | .          | 550 00     |
| .        | 20 1 3/4  | do                         | Barcelona  | 550 00     |
| Feb 10   | 5 3/4     | do                         | Antwerp    | 550 00     |
| .        | 15 5 3/4  | do                         | Hamburg    | 550 00     |
| Mar 9    | 3 3/4     | Edison Elec. Co            | Antwerp    | 550 00     |
| .        | 13 3 1/4  | do                         | Nancy      | 550 00     |
| .        | 14 7 3/4  | do                         | Genoa      | 550 00     |
| .        | 15 7 3/4  | do                         | Hamburg    | 550 00     |
| .        | 29 5 3/4  | do                         | .          | 550 00     |
| .        | 31 5 3/4  | do                         | Antwerp    | 550 00     |
| Apr 7    | 5 3/4     | do                         | Genoa      | 550 00     |
| Nov 4    | 3 3/4     | Col. Sauvaud               | London     | 550 00     |
| .        | 11 17 3/4 | do                         | .          | 550 00     |
| Feb 24   | 4 3/4     | Edison & Paris Colonial Co | Hamm       | 550 00     |
| Sept 27  | 1 2/4     | Fabrizi & Chamney          | Santiago   | 1 182 35   |
| Oct 1    | 1 2/4     | do                         | Rio        | 1 182 35   |
| Nov 28   | 3 3/4     | do                         | Santiago   | 550 00     |
| Apr 20   | 3 1/2     | do                         | .          | 290 00     |

Accapitulation

|                       |     |          |          |          |
|-----------------------|-----|----------|----------|----------|
| D. M. Co              | 'E' | 23       | 'W'      | 'E'      |
| E. E. L. Co           |     | 25       |          |          |
| G. E. L. Co. of G. L. |     | 7        | 1        |          |
| G. L. Co.             |     | 23       |          |          |
| E. E. Co.             |     | 35       |          |          |
| Cal. Standard         |     | 20       |          |          |
| E. S. Co. of L. Co.   |     | 4        |          |          |
| <u>G. L. Co.</u>      |     | <u>3</u> | <u>2</u> | <u>3</u> |
|                       |     | 3:0      | 1507     | 32 58    |

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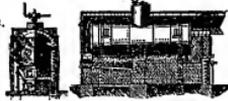


Edward P. Hampson & Co.,  
 STEAM ENGINES AND BOILERS  
 WOOD AND IRON WORKING MACHINERY.

**SAW MILLS,**

Grain Mills, Hoisting Engines, Etc.

36 Cortlandt Street,



EDWARD P. HAMPSON,  
 WILLIAM F. HARRIS.

*Personal New York, April 28 1882.*

Samuel Insull Esq  
 I refer to your letter of the 25th inst. in which you mention that you are the General Agent for the sale of the Edison Machine Works, the proposed big order of your attention to your bill against the Edison Machine Works for a <sup>sum of \$10,000</sup> furnished for the sale at Loerck St. in order of Edison Machine Works per C. L. Deane Esq. - We have not been able to get any thing definite from Loerck St. in the way of this - Mr Goddard says that nothing can be done, until they have a meeting of the Directors - could not say when they could be got together - this seems to me



*S. Michol 1016*  
THE SOUTHWARK FOUNDRY AND MACHINE COMPANY,

*April 29 1882*

SOLE MANUFACTURERS OF  
The Porter-Allen High Speed Steam-Engine.

W. H. BEECHER, President.  
C. T. PORTER, Vice President.  
G. A. BENTON, Secretary.  
C. E. NICHOLSON, Superintendent.

PHILADELPHIA,

*April 29 1882*

J. A. Curran Esq.

My Dear Sir:

I find to my very great regret, on examining the matter carefully, that it will not be possible to attach larger cylinders to these beds. Everything is so exactly adapted for this size, 11" dia, that an enlargement of even half an inch is completely barred. I am very much disappointed.

Very Truly Yours

*Chas. A. Porter*

Address all business communications to the Company.

Blank No. 1  
**THE WESTERN UNION TELEGRAPH COMPANY.**

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This message is an **UNREPEATED MESSAGE** and is charged by recipient of the sender under the conditions stated above.  
A. R. BREWER, Secretary. *374* *Providence*, President.

Dated *Providence R.I.* 1881.

Received at **791 BROADWAY**  
By *John A. Edison*

Shall ship London engine  
Wednesday & small  
Central Station engine  
Thursday builders Iron  
foundry. Promise to  
ship lamp factory  
engine Thursday  
*Washington & Lima*

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN  
**791 BROADWAY, near Tenth Street,**  
WHERE ANY REPLY SHOULD BE SENT.  
Direct Wires.

READ THE NOTICE AT THE TOP.

Blank No. 1  
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A. R. BREWER, Secretary. *Providence*, President.

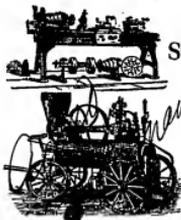
Dated *Providence R.I.* 1881.

Received at **791 BROADWAY**  
By *John A. Edison*

*65 - 5 Ave*  
Will be in New York  
tomorrow morning  
*P. Brimington*

THIS TELEGRAM HAS JUST BEEN RECEIVED AT THE OFFICE IN  
**791 BROADWAY, near Tenth Street,**  
WHERE ANY REPLY SHOULD BE SENT.  
Direct Wires.

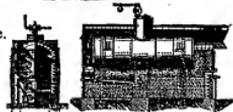
READ THE NOTICE AT THE TOP.



EDWARD F. HAMPSON  
WILLIAM F. HARKIN

Edward F. Hampson & Co.,  
STEAM ENGINES AND BOILERS  
WOOD AND IRON WORKING MACHINERY.

**SAW MILLS,**  
Grain Mills, Hoisting Engines, Etc.  
36 Cortlandt Street,



New York, May 2 1882.

Dear friend Inoull

Thanks to you  
for check from Edison Machine  
Works - we had almost given  
up in despair of getting paid  
by the use of any ordinary  
means -

They have, as it is, sent  
us a check for \$27<sup>25</sup> less than  
our bill, which they say is for  
their bill against us, something  
we have never seen or heard of  
before, and have no idea what  
they mean by it -

Will you please  
find out at once, the lowest price  
for which Mr Edison will deliver  
the Engine in Lompoc factory at Mendocino  
on the edes - the same as E.P.Hampson

Form No. 1

# THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS all messages only on condition of paying the liability, which have been accepted to by the sender of the following message, transmission or delivery of Unrepeated Messages, beyond the amount of toll paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY | CHECK    |
|--------|---------|---------|----------|
| 44     | M       | W       | 2.5 Paid |

Received at W.H. 4.45 PM May 9<sup>th</sup> 1882

Dated New York

To J. A. Edison

Wm. Park mjd  
Am testing two hundred & fifty  
lights seems to work splendid and  
preparing to test large machines will  
let you know results tomorrow  
C. L. Swan



WORKS  
 BUILDERS IRON FOUNDRY,  
 15 CORNING STREET.

Portland, P. I. May 9. '82

*Answer for Portland, by  
 13th March 82*

Dear Sir This 7/8 kids you do not quite understand it as we have not yet shipped you second bag for them. We thought it was understood that Moon was to have the iron done in them had done for the sum of the Pacific you are to give you in two weeks. We are sorry you had to get you out we will do so as soon as possible.

*Yrs truly  
 Wm. J. Jones*

Mr Edison,

Regarding the B machine referred to in this letter from the Machine Works, I notice that we sent to Batchelor some B-bar machines. I think there were eight of them. Are they not different machines from the B mentioned on the Machine Works letter? If so it is necessary for me to straighten that matter out which I can readily do.

We also send to Batchelor one A bar machine. It would appear consequently that the letter was wrongly adopted at the Machine Works. What shall I do about that?

In a recent letter from Batchelor touching the subject of machines sent to him he speak of the B bar machines and also of the "small sized A machine". Are not these different ones from those referred to in the Machine Works letter?

S. B. Eaton

May 9th 1882.

per No. 6.

## EDISON MACHINE WORKS.

104 Goerck Street,

New York, May 5<sup>th</sup> 1882.

Maj. S. B. Eaton, U. S.  
65 Fifth Ave.  
City.

Dear Sir,

Your favor of yesterday is hand.

We have followed the letters taken by your Co. as far as they have gone: but we have not given the 250 light dynamo a letter as yet. This machine is not exactly perfected however. It is to be a standard one I believe, and is the only recent new dynamo contemplated. The classes or styles of machine have been thus far as follows.

- A. (2 min or S. A.) same as our present G.
- B. not yet perfected steam dynamo ~~of the same size as~~
- C. our present standard steam dynamo
- D. an invention was merely begun, but was dropped. Some drawings we had from Mr. Clark. It was something of the G. size, but what the invention was I do not know.
- E. is the smallest size machine capacity 150 a light
- F. our present standard 65 a light dynamo

K) We can give the 250 light machine any letter, as I think the alphabet will last or hold out.

M We experimented with a 125 light machine, but thought the 250 should come first. Mr. Edison thinks the

R next will be a 500 light machine. Yours truly,  
What letter shall we give the 250 light? *Edison.*  
*Chaas Rice*

Wednesday May 10/12  
Dear Mr. May

We shall want from now to the end of the month \$20,000. to meet necessary payments. It is too bad (the 250 light don't go off all night as it looks up our money. There no returns at present are about all we can look too for a source of income for the time being. If they had gone all night, they would have furnished us the \$20,000. needed for this month.

Dean will try larger brushes this afternoon on the machine but both he and Andrews are rather doubtful if the trouble can be got over.

The 7000. to meet is coming on and it looks fine. It is nicely assorted in ages. This will save me considerable later. They offer another lot of 6000 lbs. at 18 1/4%. If this money we are now spinning runs all

Dright, I had better take the other lot. The average age of both lots is about 2 x 4.

Anything is working well. I can not recd. any reply from America yet about flour. But am going down to see them.

Have not heard from Washburn & Chipman, under Dougherty yet.

Will you be in this week.

If you have no money for me on Saturday I will get enough from Goddard for the Roll, and will only need you the day roll checks for signature.

But we must try and pay some of it if you have funds.

I hope to show complete statement of how we stand, ready next week.

Respectfully  
Rough



Recd  
11 May 1887

EDISON MACHINE WORKS.

104 Goerck Street.

New York, May 10<sup>th</sup> 1887

Thos A. Edison

Wheeler Park. N.J.

Dear Sir:

If you recollect the machine that was sent to London, you will remember that the ~~the~~ \* ~~strips~~ that go from the bars to the upright bars on the commutator, that you mentioned, were cut out of solid stock.

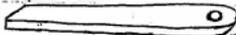
We now mill them out of it them carefully, re~~less~~ solder them, which avoids all flaws & all chance of breakage.

All machines since the London, have been made as above.

The commutators of the 3 machines, as mentioned in your letter, will be remedied immediately, and I think I know the cause of the trouble.

We will examine the armatures carefully & see if we can find out the trouble.

\*



Yours Truly  
T. A. Edison Esq.

May 11 2.

Prof. S. B. Eaton, N. C.

City.

Dear Sir,

I have your favor of 8<sup>th</sup> inst. enclosing  
subject of the last week. Mr Edison wrote Mr Moon regarding  
the article before last.

The defect in face boards has had our  
attention, and is being remedied.

Mr Bancroft's remark that the binding  
was not laid on very loosely is poorly taken, we do not  
lay the wires on.

Let us say for the future, you will  
receive many complaints regarding this defect of binding  
wires coming loose or. It is a very difficult little defect  
to remedy. It has had a great deal of attention from us, as  
well as from Mr Edison; but the trouble is the amount  
expand and contract, this of course affects the binding wire,  
resulting in these complaints.

We are using every means to decrease  
the binding wire in the best possible manner, and future  
trouble in this direction will greatly depend on the care and  
handling of the machines.

Yours very truly,

H. L. J. Supt.

FROM

THOMAS A. EDISON,

~~NO. 65 FIFTH AVENUE,~~

~~MENTENYK 77th May 1892~~  
New York,

TO

Mr. Roop  
EDISON MACHINE WORKS,

104 GOERCK STREET,

NEW YORK.

Referring to your memo of 10<sup>th</sup> we cannot let you have any money this week. I will be at the works tomorrow about 11 o'clock when I wish to see you on finances. I will bring check in with me which you sent out for signature.

Mr. Edison does not think you should order the further 700 lbs of mica. His impression is that you can get it just as cheap later on & thus obviate the necessity for carrying so much stock.

Please let us have as early as possible a complete statement of all dynamos shipped from the works to foreign ports since the start. We want the following information.

Date of shipment

where shipped to

For whom

Price

what denomination of machine  
we also want copies of all

*R. L.*  
PHONE

THOMAS A. EDISON,

No. 66 FIFTH AVENUE,

~~New York~~ 188

TO

EDISON MACHINE WORKS,

104 GOERCK STREET,

NEW YORK

*invoices of goods shipped to  
Europe, up to the time that you  
commenced billing them to the  
Edison*

*Very truly yours*

*Saml Insull*

*11/11/88  
11/12/88  
11/13/88  
11/14/88  
11/15/88  
11/16/88  
11/17/88  
11/18/88  
11/19/88  
11/20/88  
11/21/88  
11/22/88  
11/23/88  
11/24/88  
11/25/88  
11/26/88  
11/27/88  
11/28/88  
11/29/88  
11/30/88*

9

Edison Machine Works,  
104 Goerck Street, *Alton*

New York, *May 12<sup>th</sup>* 1882

J. A. Edison Esq.  
Mentlo Park, N. J.  
Dear Sir.

I have received,  
Mr. Hughes letter of the 11<sup>th</sup> Inst asking  
for 8 g brushes & 4 under brushes  
for the motor.

The former were sent this morning  
by Adams Express, on receipt of the  
above letter, and the latter will be  
sent as soon as they are finished.

Yours Truly

*C. L. Deam Esq.*

Form No. 1.

### THE WESTERN UNION TELEGRAPH COMPANY.

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THOS. T. ECKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY   | RECEIVED BY  | CHECK          |
|--------|-----------|--------------|----------------|
| 3      | <i>Wm</i> | <i>W. A.</i> | <i>33 Paid</i> |

Received at: *Mt. U.S. Am* \_\_\_\_\_ *May 12<sup>th</sup> 1882*

Special: *New York*

To: *J. A. Edison*

*Mentlo Park*

*S. We have tried mercury on the  
Communicator but the highest speed than  
it off with than cores and a lower  
speed it will probably work all night  
going to make test right away*

*C. L. Deam.*

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assumed to by the sender of the following message. Sender can be quoted as such only by repeating a message back to the sending station for comparison, and the company will not hold itself liable for errors or delays in other sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. BOCKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY | CHECK   |
|--------|---------|---------|---------|
| 1      | OR      | WR      | 26 paid |

Received at: *W. H.* *May 13<sup>th</sup>* 1882

From: *New York 5/13/82*

To: *T. A. Edison*

*Must come to some decision at once regarding two hundred & fifty light cases go on. Very necessary for you to be here today. Will you.*

*C. F. Deard*



May 16/82

In reply

Can't tell anything;  
definite till tomorrow.

The machine will  
have a good run tonight. Dean  
will send report to Mr Edison  
in morning.

Have wired Schuller  
and Anson in how quick they  
could get wire and copper tube.

If machine goes all  
right, and if we can get wire  
& copper here quickly, we will  
push the machines out very soon.

Will write fully  
tomorrow night.

Rough

May 16/82

Discuss,

The bills for Goldard  
were presented by the committee  
today. Goldard says he has  
written Mr Edison and asked  
reply by wire, as I may get  
check tomorrow.

Will you please  
see that Goldard is wired the  
first thing in the morning.

Rough

THE EDISON ELECTRIC LIGHT CO.,  
65 FIFTH AVENUE.

New York, May 6th 1888

T. J. Edison  
Agent for Edison Electric Light Co.  
D. B.  
Mento Park, J.  
Dear Sir:

The Executive Committee at their meeting to day authorized the payment by the Company of one half the cost of the Boilers, stack etc. at Gowanus st. substantially as proposed in your letter, coupled however, with the provision that when the light company shall have no further use for the boilers, some suitable arrangement shall be made with the Machine Works for their interest therein.

If this is agreeable to you please advise me, and I will give Mr. Roca a cheque for the amount. Roca

THE EDISON ELECTRIC LIGHT CO.,  
65 FIFTH AVENUE.

New York, ..... 188

tells me he is very much  
in need of this money, tomorrow,  
therefore I suggest that you  
telegraph your approval of the  
matter, that I may give  
him a cheque at once.  
You can confirm by letter.

Yours very truly  
Godward  
Levy

May, 17/82

Mr. Edison,

The 250 lb. machine is being pushed for all its worth, so as to get us some funds. For this reason we are doing our best to ship 5 machines next week. We have every thing going now, and unless some unforeseen accident occurs we will succeed in getting 5 off next week - This will give us funds and will keep us going all right until you get advances on the large machines. We want to turn out five more the week after next.

Goodland

paid us \$2300. this a.m. being 1/2 of the <sup>cost of</sup> boiler, steam heater, pumps etc. This I paid right over to Dougherty who for castings last month's a/c.

Good and sent us formal order today for 5, 250 lb for Santiago.

It you should have

any money to spare on Saturday we can use it very easily; but can get through with what I receive from Goodland on a tight pinch.

Roeaf

The Edison Electric Light Company

65 Fifth Avenue

New's Green Pass  
S. B. Eaton Vice-Pres  
E. P. Feltner Treas  
C. Goddard Secy

New York, May 17th, 1888

Thomas A. Edison, Esq.

Menlo Park, N. J.

Dear Sir:-

The Only defects this week are in connection with the  
Lawrence engine. Messrs Armington & Sims have already been  
written about the matter.

Very truly yours,

S. B. Eaton,

per H.C.G.

Mr Edison,

May 18/82

My letter of yesterday was left to be mailed last eve, but I found it here this morning, it having been overlooked. I will send out the Pay Roll check tomorrow.

We have worked hard to get out the balance of our rates for last month: but owing to a change in our system which when started will be very fine, and will require much less work, it will be a few days yet before our books will be closed.

I shall work to get out the statement for you of our condition just as quick as possible, and next month it will be sent you very soon after the 1<sup>st</sup> and regularly thereafter.

Do you not think our Foreign name plate should be changed to ~~our~~ conform <sup>more</sup> to the Home plate, for example:

E. E. Light  
Foreign  
No. 6.

E. E. L. Co.  
N. Y. City  
Pat. Dec 28/77  
Other Pat. Appl. for  
No. 2.

Should not our foreign

plate have

E. E. Light  
Foreign  
Pat. Dec 28/77  
Other Pat. Appl. for  
No. 2.

The Anchor Steamship people have discontinued the London line. The National Line will also soon follow suit and the Monarch line will have whatever freight there is shipped from this port direct to London. Their charges are now about 20% We shall have to ship by them on next Saturday (27<sup>th</sup>)

Receipt

Freights are  
quite low

Form No. 1

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assumed by the sender of the following messages: Messages not provided against theft or tampering or against loss or delay in transmission or delivery of Unrepeated Messages, beyond the amount of such paid charges, and in any case where the claim is not presented in writing within six months after sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above. \* NORVIN GREEN, President.  
 TRICH T. HOOKER'S, General Manager.

| NUMBER | SENT BY     | RECD BY | CHARGE  |
|--------|-------------|---------|---------|
| 21     | W. K. B. S. |         | 21 Paid |

Received at W. K. B. S. May 18th 1882.

Sent at New York

To J. A. Edmore

W. K. B. S.

Will ship five two hundred

light machines next week

and more the week after. Receipt

made last night =

C. L. Dean

Form No. 1

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS its messages only on conditions limiting its liability, which have been assumed to be the order of the following message:

Send me the enclosed message only by messenger's return back to the sending station for completion, and the company will not hold itself liable for error or delay in transmission or delivery of the enclosed message, beyond the amount of this paid invoice, but in any case where the claim is not prevented by writing within sixty days after the date of the message.

This is a **UNREPEATED MESSAGE**, and is delivered by request of the sender, under the conditions usual there.

**THEO. T. ECKHART**, General Manager.

**NORVIN GREEN**, President.

| NUMBER | SENT BY  | RECEIVED BY | CITY |
|--------|----------|-------------|------|
| 2      | Wm. U.S. | 28 paid     |      |

Received at Wm. U.S. May 19<sup>th</sup> 1882.

Sent to New York May 19<sup>th</sup> / 82

To F. A. Eason

Want to communicate on two hundred  
 & fifty light machines can you have rough  
 sketches made of the sizes of the copper so that  
 I can go ahead

F. A. Eason



Ans'd to May 22

EDISON MACHINE WORKS.

104 Goerck Street.

Please Address Reply

—TO—New York, May 23<sup>rd</sup> 1882

MENLO PARK,  
NEW JERSEY.

J. A. Edison Esq.,  
Menlo Park, N.J.

Dear Sir:

The lowest price I have struck so far, for <sup>wrought</sup> iron is \$4.70 per 100 lbs which is a little less than 4 3/4¢ per pound.

I shall not close with anyone however, until I see I can do no better.

I have been paying 3 1/2¢ for cored work and 3¢ for plain castings.

I have made arrangements with Dougherty to the effect that they will furnish me castings - cored work, light work etc - at 3¢ per pound and I think this is the best I can do, to get good dry sand castings.

I indicated I want 4 - 250 lb machines as soon as possible; but I doubt that I can get them ready before week after next. I suppose they are to be wire wound.

It will be a hard job to ship these five dynamos this week on account of delay in getting wire; but I still entertain hopes of doing so.

I must send 5 more to Europe next week.

Yours Truly  
Edison

9  
OFFICE OF  
Edison Machine Works,  
RECEIVED

104 Grand St. N.Y.C.

ANSWERED  
New York

May 24 1882

FILE No.

Shoemaker Est.

Wentworth Park, N.Y.

Dear Sir:

Yours of the 23<sup>rd</sup> Inst  
at hand, in reply I wish to say  
that the rails for the 250 Light  
Dynamometer are to be of cast iron.

Yours Truly  
C. E. Dean  
C. E. D.

EDISON MACHINE WORKS.

104 Goerck Street,

New York. May 25<sup>th</sup> 1882.

T. A. Edison, Esq.

Morris Park, N. Y.

Dear Sir,

Referring to yours of 18<sup>th</sup> inst. I beg to enclose herewith statement of weight, dimensions &c. of a 250 light machine. The same data for a 100 light bar machine will be given a little later when we have the same perfected. I will also give correct data of a C dynamo as soon as we weigh all the parts of the last inst. station machine which we shall do for purpose of record.

As to date of shipment nothing very definite can be stated. We will turn out 5-250 light machines per week from now on, making shipments every Saturday.

I think we could make a contract with the Steamship Companies for what orders we have for foreign shipment for transportation at very low rates. We can get special rates for all dry shipments direct from the Lanes. I should like to get some bids, and submit them to you.

Yours faithfully,

Edward D. Davenport

EDISON MACHINE WORKS.

104 Goerck Street,

New York, *May 25<sup>th</sup> 1882*

J. A. Edison Esq.  
Mento Park, N. Y.

Dear Sir!

Yours of the 24<sup>th</sup> Inst. at hand,  
and contents noted.

We will hereafter number consecutively, all  
boxes shipped to the Edison Company, as requested.

We stencil each box with: -

From

Edison Machine Works

104 Goerck St

N. Y.

and will mark by this stencil the style of the  
Dynamo and its shop number.

For a 250 Light machine it will be  
K' - No 0 etc:

Yours Respectfully  
W. L. Dean

[TO SAMUEL INSULL]

May 29. 82

Let us know about  
the engine soon as

RECEIVED

MAY 31 1882

of your own -

91 St. E. Hampden St.,

FILE No. 10

OFFICE OF

Edison Machine Works,

104 Goerck Street,

New York. *June 1<sup>st</sup>* 1882

J. A. Edison Esq.  
Menlo Park, N. J.  
Dear Sir!

I am going away  
tomorrow and will be back by  
Monday morning.

Now being the best opportunity  
for me to go for in a week or so  
I will be too busy to get away.

Yours Respectfully

*J. A. Edison*

EDISON MACHINE WORKS.

104 Goerck Street.

New York, June 2<sup>d</sup> 1882.

J. A. Edison, Esq.

Manhattan

Dear Sir,

Please find under cover the copies of bills for all dynamos shipped to Messrs. Tucker & Bailey up to when bills were made against you; also statement of all dynamos shipped to foreign ports since the start to May 1<sup>st</sup>.

Mr Dean is absent until Monday feeling in the bathhouse. Everything here is working nicely. We shut down Decoration day. Will have 3 more K's to ship by next Wednesday's steamer, and 2 or 3 more on Saturday's steamer following. Mr Leach and Mr Andrews are attending to the experiments, and presume they keep you posted.

We have dropped the <sup>name</sup> plate business entirely. The proper one to attend to the matter is certainly the patent buying the machines. We have concluded not to put on any builders plate, but have had the name Edison Machine Works, Builders, New York, U. S. A. cast in the face of the bed plate, and if you approve it, we will for all machines do likewise in future.

Yours faithfully,

Charles Rice



[TO JULIUS L. HORNIG]

Invoice  
Please remit  
to Hornig  
Your letter received. I have  
8 1/2 x 10 engine to Edward Mott  
make 104 horsepower to day Please  
send them and you will find the  
oil valve for your engine. It is  
advised to give Robert fully Young  
Please send to 254 Pearl St. A.T.S.

Lyndell  
Access

Telegram

Jan 3/192

H. P. & F. are surely  
wrong regarding the number  
on cases. It must have  
arrived through the telephone.  
There are 7 cases so each  
machine and the last lot  
were numbered 25 to 38-

ask Mr Edison  
if we shall consider these  
machines strictly as "A"s  
They are wound the same  
as a "B" - Allm

Please send the  
bills in to be receipted -

I enclose check  
for subscr, 20<sup>00</sup> on 537<sup>10780</sup> shs -  
also petty <sup>137.30</sup> cash check and  
laundry <sup>11.14</sup> bills found out of drawer  
during amount - 5000. will do for  
next Saturday and 5000. the week  
after - (set over) Rocaf

We have had E. K. and  
crossed with the base slightly.  
Clark has just written to  
Mr E. by this mail, Will  
see on Monday early, as to  
what Mr E. says, whether  
we shall ship the  
machine or not.

R.

J. C. G. L. G.

g

1885

1885

1885

9

EDISON MACHINE WORKS.

104 Goerck Street.

New York, June 5<sup>th</sup> 1882.

J. A. Edison, Esq.

Minto Park.

Dear Sir,

Your telegram of this morning  
"Down ship of less than 1500 ohms" we have had this  
ammeter remeasured and it now tests 3900 ohms. We  
ship it tonight. Your telegram to ship the Art. engine  
to Minto has had attention, and the engine will be  
taken from the dock right to the P. A. R. this afternoon.  
Your last telegram to put on more force is splendid  
news. My Dean is not here yet, but I expect him  
every hour. These K's are surely the fine machine  
people will want, and the men here like them, they  
like the work on. It is a "daisy" they say.  
We will ship three K's by Friday day  
and two more on Saturday. This will make the 10 wire  
wound, and shall we continue to ship wire machines.  
Please let us know at once.

Mr. Andrews has at my  
request written you regarding the cause of the coming  
of these ammeters. It seems to be trouble with the  
solder.

Yours very truly,

Wm. L. Rice

Copy of Contract

100 2500 light  
150 125+150  
25 extra than ammt. 250  
25 " " " 125+150  
50 2. mach.  
15 Jumbos.  
25 30 light

all to be done in less than  
4 months = 10 percent of net  
profits to works is to be paid  
Dean & Co. of which Dean  
gets 7 pct. & Co. 3 pct. If  
not done within that time  
I shall make a reduction  
of the percentage.

June 7 1884 signed T. G. Edison

Blank No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS AND DELIVERS messages only on conditions, limiting its LIABILITY, which have been accepted by the sender of the message. It is not responsible for compensation, and it is not bound to accept any message which is not in conformity with the regulations of the Company. Messages are not delivered on Sabbath and in violation of the laws, under the conditions stated here.

A. H. BREWSTER, Secy.

NOELVIN GREEN, President.

Dated: New York 16 78 188 2

Received at Mobile Park Depot  
By M. C. Mason

READ THE NOTICE AT THE TOP.

Counting engine all possible have written

Arrington & Sims

E 15/15 pm



WORKS  
AT  
BUILDERS IRON FOUNDRY,  
16 COSSON STREET.

Providence R. I. June 8<sup>th</sup> 82

Thos A Edison, Esq  
Menlo Park N.J.

Dear Yours 7/10. recd and in

answered that "in our coming, it all we could" and that  
is about all we can say. We have made a new cylinder  
✓ 14 1/2 x 10, and as we didn't want any more patch work  
we have also made a new bed pattern complete with  
adjustable bearings. We thought that we could use the  
shaft but found this in end not and have ordered  
another. Referring to your last dispatch would say  
that we have ordered a lot of tools which have been  
part delivered, balance by July 1<sup>st</sup>, when we shall take  
possession of increased room when we now are - this  
will we hope enable us to make a satisfactory delivery  
of engines to your Co.

We are  
Yours truly  
Amington Jr

EDISON MACHINE WORKS.

104 Goerck Street.

New York, June 9<sup>th</sup> 1882.

J. A. Edison, Esq.,  
Menc Park,

Dear Sir,

All of Mr Johnson's 10  
Ks. have been shipped, and we have 2 more ready  
tomorrow! but there is no Hantsing steamer  
until next Thursday when there is one, and another  
on Saturday next. We shall get all Mr Bachelors  
off on these two vessels (8) and have one for the  
Isolated Co. in the bargain.

Your telegram in answer  
to mine regarding shipping instructions duly received.

Yours faithfully,

John A. Edison

HALF-RATE MESSAGES.

2 0-13: *to read E*

THE WESTERN UNION TELEGRAPH COMPANY

The Company TRANSMITS HALF-RATE MESSAGES only on condition, limiting the liability, which here  
is assumed by the sender of the message.  
Messages may be received again only by presenting a receipt back to the sending station for redemption, and the Com-  
pany will not be held responsible for delay in delivery of telegrams and messages.  
Enclosures are not allowed. HALF-RATE MESSAGES are not received by request of the sender under the conditions  
said above.

A. R. BREWER, Secy.

MORVIN GREEN, President.

Dated *New York 11/9* 188*9*

Received at *Merlo Park Depo: 12.2m*  
*A. R. Edison*

READ THE NOTICE AT THE TOP.

*Could ship batchelor thro  
"K" tomorrow if we had  
destination*

*C. E. Rocap*

THE EDISON ELECTRIC LIGHT CO.,  
25 FIFTH AVENUE.

9  
New York, June 12th 1882

McClary

My dear Mr. Edison:

I am informed that some of George J. James's friends are urging him to sue you for the injury he sustained in the shop work before last, and I desire to lay the matter properly before you. Mr. Deam was requested to pay James wages while idle and justly refused as that matter belongs to you. I think Mr. Deam was influenced by the fact that James had told him the day before he was injured that he intended to quit on Saturday as he had an offer of better wages. James however told me privately that if Mr. Deam would give him

an advance of twenty-five cents per  
day more than he had been getting  
he would stay, and would prefer  
to do so. So I think his accident  
was particularly unfortunate at  
that time. I have seen Jones,  
and he disclaims any design or  
intention of suing you for damages,  
but I am not certain he may not  
be influenced to change his mind  
when he learns that Mr. Deane has  
refused to allow him wages which  
disbited as he has been led to expect  
it from being told that it was  
your custom. He has not been  
informed of Mr. Deane's decision,  
and I leave the matter with you.  
Confident you will use your best  
judgment in the matter. Yours respectfully,  
R. G. McLean.

Blank No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS AND RECEIVES messages only on conditions, limiting its liability, which have been accepted by the sender of the communication, and the recipient, in each case, and the sender and recipient, jointly and severally, in the event of any loss or damage to the message transmitted, or to the property of the sender, under the conditions stated herein.

NORVIL GREEN, President.

A. H. BREWSTER, Secy.

Dated New York 1/3 1882

Received at Menlo Park Depot

To J. C. Edison

READ THE NOTICE AT THE TOP.  
Cant get Batchelors machine  
shipped unless you see  
that Andrews is not continuously  
interrupted with other work  
of light Co.

C. L. Swan

1140am

EDISON MACHINE WORKS.

104 Goerck Street.

New York, June 12<sup>th</sup> 1882.

J. A. Edison, Esq.

Morris Park, N. J.

Dear Sir,

Referring to the proposed change in the K bed plates so as to enable the bolts to be got at under reach I have tried the matter here to my satisfaction and the bolts can not be reached any better by what change we can now make, than they can be reached through the top of the bed plate at both ends.

When we get out the lot we are now working on I will have to alter the whole bed plate pattern in order to make the change reach the object desired.

Yours very truly,

J. A. Edison Esq.

EDISON MACHINE WORKS.

104 Goerck Street,

New York, June 10<sup>th</sup> 1882.

P. a. Edison, Esq.,  
Mentor Park,

Dear Sir,

I have just telegraphed you about Andrews. I have one machine waiting for him to test, another will be ready in few hours, and a third later in the day. He is fiddling away on an old Fuller machine for the Orr Milling Co. Now it is absolutely necessary that Andrews give his whole time to us. He will have all he can do and more testing our machines. It is useless to work men nights and strain every nerve to get machines out, and then have them lay all day waiting for test. When we are working for a steamer shipment every hour counts mightily.

We must have Andrews' whole time from now on, and if the Light Co. raise any trouble we must make an arrangement in some way.

Will you please see to it at once.

Yours very truly,

J. D. Swan      Esq.

## EDISON MACHINE WORKS.

104 Goerck Street,

New York, June 15<sup>th</sup> 1882.

J. A. Edison, Esq.

Menlo Park, N. J.

Dear Sir,

I try to find you here with our May balance sheet which presents a very healthy appearance. Our liabilities are increased a little owing mainly to the material and work on the next 6 ed. Ks. and Gs. You will notice our current liabilities are double what they were last month. Still the increase on later material is about \$5000. this month and we have paid out \$2500. We owed last month \$2600. Therefore our debt is doubled.

Owing to our increase in force the payments made by London on the 6 ed. are \$10000. per month will not equal the material bought and the labor put on this order for a month or two! but the payments will more than do this on the latter end of the work. We will have in a month's time all the stock in for the whole 12 ed. representing in value \$60000.

In this way our liabilities will run up a little, and if Paris does not pay up we shall be very much pinched. This should be looked after.

We expect to turn out in a week or two from 15 to 20 Ks. per week. This is what Mr. Dean wants to do, so as to make way for the 125 light machines, as for these last we shall have to turn out about 12 to 15 per week to get out the 150 in 4 mos. How will this be faster than the demand will require. Have not you orders for these 125 lights as soon as we can turn them out? Can't we arrange for advances on the last 5 ed. Johnson takes 6, Batchelor 4 and we are

EDISON MACHINE WORKS.

104 Goerck Street,

New York, \_\_\_\_\_ 188

building 15 altogether. Who will take the 5?

We have shipped to Hamburg  
4 Ks. per <sup>1</sup>Quina today, and we ship the balance 4 per <sup>1</sup>Quina  
on Saturday.

We shall get out 10 Ks. next week. Shall we  
ship London 5 and Paris 5?

Mr Dean struck a bonanza in  
Lepidum nitra yesterday. His cannon  
took wheels 25000 lb and shipped them in at 1 1/2¢ per lb.  
They are just right for the Co.

Yours very truly,  
Charles R. Roof

P.S. We ought to have more insurance placed on stock,  
about \$50000.

C. E. R.

Form No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions limiting its LIABILITY, which have been admitted to by the sender of the following message. It does not be entitled against itself by depositing a message back in the sending station for correction, and the company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, nor in any case where the claim is not presented in writing within sixty days after the date of the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECEIVED BY | CHECK              |
|--------|---------|-------------|--------------------|
| 7      | 63      | C           | <del>10</del> Paid |

Received at Menlo Park Depot 6/16 1885

Dated Albany 6/16  
To J. A. Edison

*Impossible to get 20 off tomorrow*

*Click all west Thursday*  
*Edison make 70/10*

*1/30/85*

## EDISON MACHINE WORKS.

104 Goerck Street,

New York, ~~Jan 16~~ 1882.

J. A. Edison, Esq.

Menlo Park, N. J.

Dear Sir,

Your favor of 15<sup>th</sup> inst. to hand. I should have said Mr Inwell's signed by you, as the letter is one of this kind.

As to Mr Inwell's complaints about being unable to get information from the Works if he has reference to me, he has made representations to you which have, putting it mildly, one foundation. Mr Inwell cannot say but that I have always treated him with becoming courtesy, and have always liberally furnished him with every information and assistance.

Regarding the statement of dynamo shipped abroad, I beg to enclose you herewith the original letter asking for such information, and request you to personally compare it with my statement, and if I have not complied in every sense with what was asked for, I do not understand the English language. All I have to say for Mr Inwell is that either he does not know what he wants or how to ask for it.

In future it is my desire to transact all business with yourself personally, and to avoid any occasion of me again calling down on myself such disagreeable feelings as these letters have produced, I hope all your business and correspondence will be conducted in your name.

Yours faithfully,

Charles Rice

## EDISON MACHINE WORKS.

104 Goerck Street,

New York, June 17<sup>th</sup> 1882.

Wm. Edison, Esq.

Mexico Falls, N. J.

Dear Sir:

Referring to my letter of yesterday regarding the statement of dynamo shipped abroad, I should have stated that if there is any information or any correction <sup>necessary</sup> or if you want the statement made any differently please command me.

It seems as though some other arrangement will have to be made whereby we can get to the bank on Saturday and back in time to count the money and pay off. Our roll is increasing, and unless we can draw on the bills of lading at 10 o'clock sharp at Detroit on Saturdays and get up to the Boat without unnecessary delay, we cannot get back to the works count the money and pay off before shutting down time. If we can do this it is all right. Frequently we send out a load for the steamer late at night and early in the morning. When this falls on a Saturday, as was the case to day, it is impossible for me to tell just what money we can draw for until the trucks are back from the pier with the receipts for the goods. This shows the money matters all together on Saturday, and we must have no delays on that day or it will give us trouble here in paying off.

Do you wish me to ship next week to Mr Johnson? I presume so. We can ship all the balance (15<sup>00</sup>) due him I think by the next London steamer. We have until July 12 to ship the 5 kcs. to South America. The 10 qrs. for Mr Johnson will be ready next week.

Yours very truly,

Charles D. East



EDISON MACHINE WORKS.

104 Goerck Street.

New York, June 19<sup>th</sup> 1882.

J. C. Edison, Esq.

Mentz Park, N. J.

Dear Sir,

Referring to the information as to the cost of armatures, I beg to append same at foot. This is our total cost covering all expenses, depreciation &c. but not profit.

Yours faithfully,

John C. Edison

3250  
8

|      |      |     |          |         |       |         |
|------|------|-----|----------|---------|-------|---------|
| 0875 | 25%  | 'c' | armature | 3250.   | 813.2 | without |
| (25) | 60   | 25% | 'k'      | 240.385 | 1000  | engine  |
| (50) | 16   | 25% | 'g'      | 80.135  | 420   |         |
| (25) | 7.50 | 25% | 'e'      | 20.3732 | 165   |         |

Jobs.

The basis of figuring for the 'c' is on the last lot of 6

|     |     |
|-----|-----|
| 'k' | 50  |
| 'g' | 100 |
| 'e' | 20  |

On a large contract for 'c' say 50 we could reduce the cost from \$250 to \$200, possibly more.

|  |  |                                                                                 |
|--|--|---------------------------------------------------------------------------------|
|  |  |                                                                                 |
|  |  | <p>9<br/>       June 1952<br/>       Machine 101<br/>       out of Standard</p> |
|  |  |                                                                                 |

130  
 20  
 ---  
 100

EDISON MACHINE WORKS.

104 Goerck Street.

New York, *June 19<sup>th</sup>* 1882.

J. A. Edison, Esq.

Munro Park, N. J.

Dear Sir,

I beg to enclose herewith a letter from Maj. Eaton asking for certain information, which is deemed best to have your approval before giving it. I presume most and perhaps all of the questions may be answered in a general sort of manner. Please return the letter with your views by early mail.

Yours very truly,

*Charles D. Case*

EDISON MACHINE WORKS.

104 Goerck Street.

New York, June 20<sup>th</sup> 1882.

J. A. Edison, Esq.,

Menlo Park, N. J.

Dear Sir,

Referring to the 4 "C" for Messrs. Jackson & Bailey, Mr Dean says that we can get them (4) out by Aug. 1<sup>st</sup> if you will use P-A. engines. Mr Porter is figuring on putting on a larger cylinder, and thinks he can do it. He is to let us know.

Messrs. Armstrong & Sons wrote they thought they could make 5 engines by Sept 1<sup>st</sup>

Yours very truly,

Charles Roeck

Form No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS TELEVISION messages only on conditions limiting its liability, which have been assumed by the sender of the following message. Errors can be corrected only by repeating a message back to the sending station for comparison, and the company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. ECKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY | CHECK  |
|--------|---------|---------|--------|
| 8      | BZ      | E       | 7 Paid |

Received at Menlo Park Depot 6/20 1882

Dated New York NY 6/20

To J. A. Edison

*Parley fountain with diameter  
nine inch face*

*to L. Deau*

Form No. 1.

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THOS. T. ECKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY | CHECK   |
|--------|---------|---------|---------|
| 7      | BZ      | E       | 20 Paid |

Received at Menlo Park Depot 6/20 1882

Dated New York NY 6/20

To J. A. Edison

*Menlo Park NY*

*Could you come here to meet me  
and shall I come out tonight must  
tell you about Insulating armature  
parts answer quick*

*to L. Deau*

MP 16 6/20/82

Edison machines

Ship four to Edison Electric  
Co Antwerp thro Edison Electric  
Co Amsterdam one Edison Electric  
Co Genoa one Edison Electric  
Co Hamburg ship today to Edison  
Electric Co Antwerp & Edison Electric  
Co Hamburg all E machines possible  
sending half to each have orders



Form No. 1

# THE WESTERN UNION TELEGRAPH COMPANY.

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This is an UNRECEIVED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THEO. T. ECKERT, General Manager.

NORVIN GREEN, President.

| NUMBER                       | SENT BY | REC'D BY | CHARGE  |
|------------------------------|---------|----------|---------|
| 6                            | 2A E    | 19 Paid  | 3:40 pm |
| Received at Menlo Park Depot |         | 10/20    | 1882    |
| Paid Providence R I 20       |         |          |         |
| To S. A. Edison              |         |          |         |

If in city tomorrow we would like  
 to see you across at Corcoran st  
 would be there early  
 P. Amington

## EDISON MACHINE WORKS.

104 Goerck Street.

New York, June 23<sup>rd</sup> 1882.

T. A. Edison, Esq.

Mines Park, N. J.

Dear Sir,

I beg to hand you herewith a letter from Southwark Foundry, in reply to one of mine to them, asking for 4 engines with new cylinders, and urging them to hurry with all possible despatch to ship. See what a cool reply. We must do something at once about engines or we shall get left. They are the only thing that will keep us back. I can turn the rest of the work out without any trouble in time. Shall we take the engines as they are, and if Porter makes his cylinder a success why we can use them on the rest of the engines.

Yours truly,

C. L. Doolittle Supt

Reference to your letter of 23<sup>rd</sup> June  
 We must use the old cylinders  
 for the four Porter engines if we  
 cannot get new ones. I mention  
 you here with Southwark Foundry's  
 letter

## EDISON MACHINE WORKS.

104 Goerck Street,

New York, ~~June 24~~ 1882

J. A. Edison, Esq.  
Munro Park, N. J.

Dear Sir,

We must insist on having the fitting room without delay. I am terribly crowded for room now, and must have room for Andrews to put a dozen or more armatures at once. I want plenty of room for my armatures and there is danger of having them injured in the Test Room now with so many in there. I shall have to crowd all armatures as soon as finished in that room; and they (the test force) will have to get out.

Yours truly,

Edison, Supt

Referring to yours of 24<sup>th</sup> June I would remind you that the Light Co pay us 1/2 cent for the fitting room, & have quite a large investment in fixtures &c there which and therefore we cannot take them back out. They are entitled to proper treatment and all that can be done is to buy & arrange for the best force to go somewhere else which I am trying to do. I doubt if we can have the money for several months.

EDISON MACHINE WORKS.

104 Goerck Street,

New York, Jan 27<sup>th</sup> 1882.

J. A. Edison, Esq.

Menlo Park,

Dear Sir,

Referring to your order for 30 'E' machines. We of course understand these are to be all alike, 15 light machines. You know we were about to alter the patterns so. to make the 'E' 30 lights: but will now fill this order first, and then build a 30 light machine. Is this right?

Yours truly,

Charles D. Croft

Yes.  
had pay for alterations  
to the first 15 light  
in the 15 light

## EDISON MACHINE WORKS.

104 Goerck Street.

New York, June 28<sup>th</sup> 1882.

J. A. Edison, Esq.

Menlo Park, N. J.

Dear Sir,

We have just missed catching the Amsterdam steamer sailing today, and consequently the 2 K's for that place will be detained here till the next steamer, which I am sorry to say is two weeks hence. We gave the Locomotive Co. 4 K's last Friday, and on Tuesday shipped 2 to Finland, and this morning the K I was trying to get aboard the Amsterdam steamer went by mistake to the Hamburg vessel which does not sail till tomorrow. We had another K. which would have gone out this A.M. but there was some trouble with the armature, just enough for us to miss the shipment. However Hamburg has got her "K" all right.

We are now shipping the 5 K's to South America for Messrs. Fatti & Chamney, and will ship the 1 K to Lima this week.

Your telegram just to hand regarding money etc. I entreat herewith all the help we will have this week against the Paris people. We shall need all the money we can get for Saturday's payments. I have paid up every thing to the 1<sup>st</sup> of this month and want to reduce our liabilities all I can before the close of the month, as they are now about \$2000. per day. Directly after the "4<sup>th</sup>" Ocean is going to put on ~~another~~ 100 men. We could not do this heretofore owing to want of stock: but now we have all we buy of thoroughly awake, and stock is coming in

EDISON MACHINE WORKS.

104 Goerck Street,

New York, ..... 188

in perfect floods. Just think of using a ton of #17 wire per day on cores, and 10 tons of forging core makers, and 15 ton of castings per day. This is what we are receiving now every day.

The 150 light (M) machine is being put together as fast as possible, and it is hoped to be ready for test by Saturday.

We can ship all of the 15" Ks. due London on the next two steamer i. e. July 8 + 15.

We have 4 of the "little E" machines 'B's. which are being changed to "A's." and which can be shipped July 8<sup>th</sup>. The balance of the order for 10 will have to be built.

I send you today in one of the dynamo boxes (We are shipping you the 2 g's. today) 3 complete sets of Photos. I have sent 5 sets to Mr. Bateheler and 5 sets to London. Please let me know if you want any sent elsewhere. We send of course sets to 65 or.

We have succeeded in get 5000 lb more of mica at 13¢ per lb.

I shall count on \$500. from London people on Saturday. When will Paris pay again?

Yours truly,

Charles D. King



THE MONTREAL AND DOMINION TELEGRAPH COMPANIES' LINES

Form No. 4

Operated by the Great North Western Telegraph Company of Canada.

This Company transmits and delivers messages only on conditions limiting its liability, which have been assented to by the sender of the following message.

Errors can be corrected only by repeating a message back to the sending station for correction, and the company will not hold itself liable for errors or delays in transmission or



delivery of uncorrected messages, beyond the amount of sale paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an uncorrected message, and is delivered by request of the sender, under its conditions, named above.

H. F. DWIGHT, General Manager.

BRANTON WILMAN, President.

|             |     |      |      |       |
|-------------|-----|------|------|-------|
| Message No. | Day | Hour | Time | Class |
| M           | 17  | B    | 7    | 1466  |

This Telegram has been received upon the above conditions.

CAPE VINCENT, N.Y.

JULY 17, 1882. 758

READ THE NOTICE AND AGREEMENT AT THE TOP.

By Telegram from *Yepford*

To *W. Johnson*

*Porter ship engine today keep me advised of your whereabouts*

*C. J. Swan*

*Forwarded from New York*

Acc'd  
24th  
Refused to  
Pay  
F.R. Dutton, Esq.

Executive Office  
Western Union Telegraph Company

New York, July 18th 1882

Costs too much to have your  
size will furnish a complete  
system which will ~~be~~ ~~up~~

~~at a moderate~~  
Search cost for 1st one we should  
like to get your trade

Will you kindly advise me  
know you would be better satisfied

whether your folks would take an order to construct  
with our machines

four armatures for us to fit fields of Siemens'  
machines if so, at what price?

Armatures would need to be about 7 in. diameter  
and contain say 50 or 56 coils - one involute on each -  
arranged on a plan something like that shown in  
Edison's paper in Journal of Franklin Institute.  
Bars embracing coils to be as large as space will  
permit as we want low resistance.

The reason I ask for armatures alone is that we  
have several spare fields on hand that we want  
to utilize.

Truly Yours  
George A. Hamilton

110  
113

Form No. 1

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assumed by the sender of the following message. It is not to be received except only by presenting a receipt back to the sending station for completion, and the company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

TEOS. A. EICKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | RECEIVED | HOURS | CITY    |
|--------|----------|-------|---------|
| 5      | NY       | 6     | 19 Paid |

Received at: Menlo Park Depot

7/19 1882

Order: New York 19

3:30 pm

To: J. M. Edison

N.P.

Should like to see you  
 very much! have important  
 lease of blocks in our rear  
 Can you come tomorrow  
 C. L. Deau

[TO SAMUEL INSULL]

106 GOERCK ST., NEW YORK, July 24, 1882.

#6 Please advise as soon as  
possible if we shall send  
wire wound armatures  
in place of the bars  
ordered. Resp

EDISON MACHINE WORKS,

PER \_\_\_\_\_

Form No. 1.

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This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. ECKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY | CHECK   |
|--------|---------|---------|---------|
| 4      | C.P.    | G       | 10 Paid |

Received at Menlo Park Depot July 31 1888

Dated New York 31

To J. W. Edison

Will test large machine tonight  
Will you be in answer

C. L. Swan

Form No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

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THOS. T. ECKERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY | CHECK   |
|--------|---------|---------|---------|
| 5      | Wm      | G       | 13 Paid |

Received at Menlo Park Depot July 31 1888

Dated New York 31

To Russell  
M.P.

R sent Eighteenth July 7  
gives Wednesday drawing to you  
6 after 5

Charles L. Clarke

9

OFFICE OF  
Edison Machine Works,  
104 Goerck Street,  
*Man*

New York, July 31<sup>st</sup> 1882

S. Inshall Esq.  
Mead Park, N.J.  
Dear Sir,

I enclose you  
a list of the Engineers' tools, which  
on the Yacht "Arrow", as  
given by himself.

Please examine it and see  
if you can make any corrections,  
as it does not seem possible  
that this list be correct.

In case you cannot remember  
about his time, please refer to  
the Captain & see if he knows  
about it.

Yours Very Respectfully  
*J. L. ...*

OFFICE OF  
Edison Machine Works,  
104 Goerck Street,  
*John*

New York, July 31<sup>st</sup> 1882

Thos. A. Edison Esq.  
Mead Park  
N. J.

Dear Sir

In answer to your  
last rec'd would say the Com-  
pleted 17 S's and 5 K's last week  
shipped to London 15 S's and 1 K  
also 4 S's are on jumbo, here in the  
shop ready for delivery, it K's & 2 S's  
the above being the product of the  
shop, and the disposition of the same  
for last week, will remit you Monday  
next, transactions for this week. We  
I would took this date on Saturday.

Respectfully submitted by

*James ...*  
Geo. W. Randolph

## THE WESTERN UNION TELEGRAPH COMPANY.

The Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been accepted by the sender of the following message. It declines to be bound by any other conditions, and the sender will not hold the Company for service or delivery in transmission. This is UNREPEATED MESSAGE and is delivered for its own sake where the claim is not presented in writing within sixty days after sending the message.

THOS. A. GOERCK, General Manager.

NORVIN GREEN, President.

|                                                         |                          |                      |                         |                        |
|---------------------------------------------------------|--------------------------|----------------------|-------------------------|------------------------|
| Sent by<br><i>Ed</i>                                    | Sent by<br><i>sh. us</i> | Sent by<br><i>21</i> | Sent by<br><i>perad</i> | Sent by<br><i>1882</i> |
| Received at <i>Watts</i> <i>Aug 21, 1882</i>            |                          |                      |                         |                        |
| Dated <i>W. Y. Aug 21, 1882</i>                         |                          |                      |                         |                        |
| To <i>J. G. Edison</i>                                  |                          |                      |                         |                        |
| <i>Paul C. Depiano for about one hour</i>               |                          |                      |                         |                        |
| <i>brushes worked well. Electro motor force well up</i> |                          |                      |                         |                        |
| <i>to general average, particulars first mail</i>       |                          |                      |                         |                        |
| <i>P. L. Deane</i>                                      |                          |                      |                         |                        |

9

OFFICE OF

Edison Machine Works,

104 Goerck *Edwardolph*

New York, *Aug 2*, 1882

*Thos. A. Edison, Esq*  
*Watts Park*  
*N. Y.*

Dear Sir

Enclosed, please find  
 a letter which will explain itself.  
 Mr Deane is exceedingly anxious to  
 get possession as soon as possible  
 the case is signed, and as soon as  
 enclosed check is paid over the check  
 must in, besides which Mr Deane is  
 fearful that he may change his  
 mind and he is therefore anxious to  
 secure the possession beyond perad-  
 venture. We have funds in bank  
 to cover the check

Very Resp Cy  
*R. Edwardolph*

Office of the  
Harrington & Sons Company  
Providence, R.I. Aug 2, 1882

Dear Mr. Garrison:

As you have given much attention to the subject of economy and regularity of speed in steam motors, and have indicated your preference for the "Lawrence" engine, manufactured by this company, by repeated and large orders, I take the liberty of soliciting of you a written expression of your opinion of the engine.

It is needless to say that testimony from a person of trained and exact methods like yourself will be especially valued by us.

Very truly yours  
T. H. Garrison Esq. Henry Howard  
Market Park N. Y. President.

Referring to your favor  
of ~~the~~ <sup>and</sup> ~~me~~ as soon as we  
get the new Central Station  
engines I have successfully  
tried same I shall be most  
happy to write such a  
letter as you desire. At

present it is impossible  
for me to do so as I cannot  
afford to offend the Porter  
Allen people until I am absolutely  
independent of them

Comptroller  
of the  
Massachusetts  
R.R. Co.  
Boston

37

Form No. 1

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been assumed to by the sender of the following message. It does not by any means assume any liability for the sending or delivery of messages, beyond the amount of telegraph charges, nor in any case where the claim is not presented in writing within sixty days after sending the message.

This is an UNRECEIVED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

| NUMBER                                                        | SENT BY | RECEIVED BY | CHECK |
|---------------------------------------------------------------|---------|-------------|-------|
| 4                                                             | W. C.   | 17 Paid     |       |
| Received at <u>Menlo Park Depot</u> <u>Aug 7</u> 188 <u>2</u> |         |             |       |
| Dated <u>New York</u> <u>6:21</u> <u>10:45 am</u>             |         |             |       |
| To <u>Bussell</u>                                             |         |             |       |
| : <u>N.P.</u>                                                 |         |             |       |
| <u>Spec. Co shipped to Geneva now</u>                         |         |             |       |
| <u>shipping to London</u>                                     |         |             |       |
| <u>Cedison Mach Tool</u>                                      |         |             |       |
| <u>Sent to Matt by fore</u>                                   |         |             |       |

Form No. 1

**THE WESTERN UNION TELEGRAPH COMPANY.**

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This is an UNRECEIVED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

| NUMBER                                                        | SENT BY | RECEIVED BY | CHECK |
|---------------------------------------------------------------|---------|-------------|-------|
| 1                                                             | W. C.   | 9 Paid      |       |
| Received at <u>Menlo Park Depot</u> <u>Aug 7</u> 188 <u>2</u> |         |             |       |
| Dated <u>Princeton R.I.</u> <u>7</u> <u>10 am</u>             |         |             |       |
| To <u>J. C. Carson</u>                                        |         |             |       |
| <u>Ordering large engine all</u>                              |         |             |       |
| <u>parts sent plans to Dean</u>                               |         |             |       |
| <u>Amington &amp; Sons</u>                                    |         |             |       |
| <u>Sent by fore to Stern</u>                                  |         |             |       |

ADDRESS ALL COMMUNICATIONS TO THE COMPANY.

THE BABCOCK & WILCOX CO.  
PATENT WATER-TUBE STEAM BOILERS,  
30 CORTLANDT STREET,  
NEW YORK.

New York, Aug 9<sup>th</sup> 1882

Professor J. A. Edison  
Menlo Park. N.J.

Dear Sir

Enclosed herewith we enclose Specification for 50 hp. B & W Boiler, as requested by you this morning

One of your representatives called here this afternoon upon the same subject and mentioned that we could give you a price for a suitable iron Stack. - We will furnish a cast iron Stack 60 feet long, 24" dia. (nested ready for shipment) in 3 sections with all guy rods complete for the sum of Two hundred and Ten Dollars (\$210) f.o.b. in N.Y.

Trusting we may be favored with your commands.

We are Respectfully

The Babcock & Wilcox Co.

For W. P. Schopelt

*San N. Durbin, Dist.  
S. Wilson, T. East*

*San N. Durbin, Dist.  
S. Wilson, T. East*

**BABCOCK & WILCOX CO.**  
**WATER-TUBE STEAM BOILERS.**  
**NEW YORK AND GLASGOW.**

*100 Broadway, N. Y.  
New Orleans*

NO. 14

CORTLANDT ST.

*225 Mission St.  
San Francisco*

*48 Canal St.  
Chicago*

*30 River St.  
Boston*

*116 James St.  
Havre*

*321 N. 5th St.  
Philadelphia*

*New York*

9  
SPECIFICATION  
FOR *Aug 742*  
Babcock & Wilcox Boiler



of *50* - Horse Power

FOR

*J. A. Edison, Esq.  
Manhattan Park  
N. Y.*

**The BABCOCK & WILCOX CO.,**

30 CORTLANDT STREET,  
NEW YORK

**SPECIFICATION FOR *50* - HORSE POWER.**

Arranged in 1 boiler or furnace, and set in  
1 battery.

To *J. A. Edison, Esq.*

*Manhattan Park N. Y.*

**SECTIONS.**

*This* boiler to be composed of 4 sections or slabs, each section to be composed of 3 best lap-welded wrought iron tubes, four (4) inches in diameter, and 14 feet long, connected at the ends by continuous staggered headers, or "up-tubes" and "down-takes;" the tubes to be fastened therein by being expanded into tapered holes. Each "header" to be provided with handholes placed opposite the end of each tube, of sufficient size to permit the removal and renewal of a tube through the same, with joints made tight without packing of any kind. Clamps for handholes to be of wrought iron. The several sections to be connected at each end to

**Headers.**

**Connection.**

**Joints.**

a steam and water-drum, and at one end with a mud-drum, by means of lap-welded wrought iron tubes, four (4) inches in diameter and of suitable length, expanded into bored holes.

No screwed or packed joints are used in the construction.

**DRUM.**

The steam and water-drum ( / in number,) to be 30 inches in diameter and  $1\frac{1}{2}$  feet long, made of Flange Iron inches thick, in three sheets; the longitudinal seams double riveted; the heads turned in lathe, and rivet holes drilled. To have a manhole in *rear* head, with faced joint, and two nozzles, one for safety valve and one for taking off steam,  $3\frac{1}{2}$  inches diameter with 9 inch flange, faced and drilled.

**Manhole.**

**MUD-DRUM.**

The mud-drum ( / in number,) to be of cast iron, 12 inches diameter and 32 inches long, with a hand-hole and a separate nozzle for blow-off pipe, 2 inches diameter.

**Blow-off.**

**SUPPORTS.**

The boiler to be suspended from 2 wrought iron compound beams, resting on 4 wrought iron columns, with cast iron bases and caps, properly fastened so that the boiler shall be supported entirely independent of the brick work, and free to expand or contract without affecting the same, and so that the brick work may be removed and replaced, if required, without disturbing the boiler or connections.

**VALVES and FITTINGS.****Safety Valve.**

This boiler to be provided with one safety valve 9 inches diameter

**Steam Gauge.**

One steam gauge twelve and one-half (12½) inches diameter, dial, mounted on ornamental stand,

**Water Gauge.**

One stand pipe, fitted with large sized glass water gauge, and three patent gauge cocks with lifting handles;

**Feed Valves.**

One check valve, ½ inches diameter,

One stop valve, ½ inches diameter,

**Blow-off Valve.**

One blow-off valve 2 inches diameter,

**Cleaning Valve.**

Two stop valve, ½ inch diameter, with necessary pipes and fittings for fixing all the above to the boilers.

**FRONT.**

The front to be of cast iron, full width and height, ornamental pattern, containing 1 fire door with register / double ash pit doors, and large door for access to the ends of the tubes; corners to return around brick work nine inches. All parts to be ample in strength; joints fitted by planing.

**FIXTURES.**

The fixtures to consist of a full set of grate bars with bearers, dead plate and girders, flame bridge plates with bolts, and special fire brick for lining the flame bridges; bridge wall girders and bars, binders and bolts, 2 ash and 4 cleaning doors for access to the exterior of tubes and the flues for cleaning, 1 damper with frame, and the requisite I and T bars for openings in walls; smoke chamber T's and anchor bolts for front.

**TOOLS.** / Steel wrench fitting the handhole nuts, / tube scraper with long handle, / set of fire tools, consisting of poker, slice bar and hoe, and hose for blowing dust from exterior of tubes, to be furnished.

**TESTING.** The sections and mud-drum to be tested and made tight under a hydraulic pressure of 300 lbs. per square inch, and the steam and water drum to be tested and made tight under a hydraulic pressure of 150 lbs. per square inch.

**QUALITY.** All materials and workmanship to be first-class in every particular

**ERECTING.** Full drawings and directions for erecting to be furnished, and services of man to erect,—board and traveling expenses to be paid by purchaser.

**DELIVERY.** The boiler to be delivered f. o. b. in New York.

**PRICE.** for the sum of *Eleven hundred & eighty five* (\$1,185.<sup>00</sup>/<sub>100</sub>)  
*Dollars* —

**TERMS.** One-half payable on presentation of sight draft with shipping receipt. Balance when erected per draft at 5 days' sight.

The Babcock & Wilcox Co.

for *A. J. Morrison*

EDISON MACHINE WORKS.

104 Goerck Street,

New York. *Aug 14<sup>th</sup> 1888*

Thos A Edison. Eng.  
Newark. N.J.

Dear Sir:

Your letter of yesterday at hand and contents noted.

The following is a copy of Ausonia B & C's letter in regard to the composition wire.

"We have received your esteemed favor of Aug 5<sup>th</sup> inquiring whether we could make wire composed of 88 percent. copper and 12 per. cent. tin or 11 percent. tin 3 per cent. Aluminium and 86 percent. Copper. We have had to wait advices from our factory before replying definitely to your question. After careful inquiry we are prepared to state that, we could not furnish wire of either of the mixtures above named, as it would be too hard to work in our machines, and the result of trying to work it would be breakage and damage to our machinery which we would not risk."

Yours Very Respectfully

*T. Edison*

EDISON MACHINE WORKS.

104 Goerck Street,

New York, *Aug. 14<sup>th</sup> 1882*

*J. A. Edison Esq.*  
*Menlo Park. N.J.*

Dear Sir:

*Your's of the 14<sup>th</sup> Inst at hand.*  
*The foundry people tried experiment therein*  
*referred to, & only succeeded in getting*  
*11 percent of iron.*

*They are trying it again to-day.*

*I am having all the patterns pushed*  
*with the greatest haste and expect to have*  
*them put in the moulds by Wednesday*  
*(Aug 16<sup>th</sup>) morning.*

*The Alloy Gumbo Commutator casting is*  
*being made.*

*Yours Respectfully*  
*H. L. Rice*

Form No. 2

### THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been accepted to by the sender of the following message. It reserves the right to retransmit a message back to the sending station for comparison, and the company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, nor in any case where the claim is not presented in writing within sixty days after receiving the unrepeated message, and is delivered by request of the sender, under the conditions named above.

THIS IS AN UNREPEATED MESSAGE.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY  | CHECK |
|--------|---------|----------|-------|
| 2      | Wm      | 1.6 Paid |       |

Received at Menlo Park Depot Aug 15 <sup>1882</sup> 1882.

Said New York to W 10 30am  
To Thomas A Edison

Bill Hurry matters to use  
punched meter plates Charles  
Approved answer  
Answered C. Johnson  
Answered C. Johnson

36 Johnson Avenue August 2, 1882

% S. Sigmund and Co  
108 Brodway Street  
New York City

Have written Clarke authorizing  
use of Pass chart Plate

R. Cousin

Clarke

Aug 10 1882  
H. H.



WORKS  
AT  
548 HIGH STREET.

HENRY HOWARD, PRESIDENT.  
PARSON ARMINGTON, TREASURER.  
G. C. SIMS, SUPERINTENDENT.  
G. T. HOWARD, SECRETARY.

Providence R.I. August 5<sup>th</sup> 82

Edison Mach. Works

104 Grove St. New York

Dear Sir

Your favor of

14<sup>th</sup> returns. On the 11<sup>th</sup> inst we shipped to  
Mr. Moore 2 8<sup>2</sup> x 10 Engines - one of them had  
a special bed, made for 97 lbs. beam - the  
other one we supposed would be for Mr. Edison  
but we were notified that Mr. Edison had been  
committed and to ship it as directed. We had  
previously been ordered on July 30<sup>th</sup>, to ship all  
Engines to Mr. Moore, and we suppose an arrangement  
has been made whereby they are to pass through  
his hands. The reorganization of our shop has  
delayed us somewhat, but we have now greatly  
increased facilities and shall soon be able we  
think to keep up with you. The large Engines are  
going on well. Yrs. Parson Armington Treasurer -

EDISON MACHINE WORKS.

104 Goerck Street,

New York,

Aug 16<sup>th</sup> 1882

Thos A. Edison Esq.  
Menlo Park, N.J.

Dear Sir:

Yours of the 15<sup>th</sup> just at hand, my contents noted.

I can give you all the piece work prices from our Price Book and I hope I can explain to your satisfaction why it is done as it is.

There is no reason why all contracts cannot be paid by checks.

The "Skin" machine is getting along splendidly. Dougherty is casting the iron pieces to-day. The Parchment Paper for Chas Batchelor, we have to order.

If I don't hear from you tomorrow, I will be out to Menlo & see you in the evening.

Your's Respectfully,  
C. L. Dean

C.L.D.

## EDISON MACHINE WORKS.

104 Goerck Street,

New York, Aug 17 1882.

J. A. Edison, Esq.

Menlo Park, N. J.

Dear Sir,

In a conversation last week Col. Goddard and Mr. Moore on Tuesday last they informed me that the understanding between yourself and Mr. Moore regarding the order for 50 Nos. and 50 Ls. was that one half the money was to be cash, and the other half either 3 mos. time or to apply on your subscription to Ls. stood at their option. Now their option is for the half to apply on your subscription.

If this is the case it will cripple us for funds unless something comes to us from other sources. As it is now we are depending entirely on the Ls. Co. to meet our obligations except the payment this week of \$7500. by the London Co. and again on Sept 1<sup>st</sup> for \$10000. which is their last payment. (we should then furnish them with their dynamos; 2 are ready waiting for engines, and there seems to be no objection but to take Porter engine. I enclose letter from A.S. which gives no satisfaction, and call your notice to what they have done with an 8x10)

The Ls. Co. do not take but about half dozen machines per week and this is pretty good if they can take regularly that many.

I did not know anything about  $\frac{1}{2}$  only was to be cash for their machines; but was calculating on all cash, and paying the installments in J. as heretofore.

EDISON MACHINE WORKS.

104 Goerck Street,

New York, ..... 188

I understand they have plenty of money and it seems to me that we should be as pinched when they could favor us without any sacrifice to themselves. Can't you make some arrangements with them whereby they will pay us cash about \$10,000. per week for 3 weeks taking machines for the money. With this we can get through easily.

Yours faithfully,

Charles D. Case

Southwark Foundry & Machine Co

Philadelphia

We shall start our station  
next week and as your governor  
fails to control the engine  
with or without load, it might  
perhaps be to your interest  
~~not~~ with the public to give  
a little attention to the subject

Edison

196

44

Aug 19. 82  
Exhibit to  
Southern Franchise

The Southwark Foundry and Machine Company,

Sole Makers of

The Porter-Allen High Speed Steam-Engine.

W. H. JEFFERICK, President.  
C. F. POTTER, Vice-President.  
G. A. BOWTICK, Secretary.  
C. B. RICHARDS, Superintendent.

PHILADELPHIA, *Aug 19<sup>th</sup>* 188*2*

*W. H. J.*  
*L. A. Corwin P. L.*

Dear Sir:

In reply to your telegram, we  
have sent a new cylinder to the station,  
which should be on today, and the other five are  
being rapidly pushed to completion.

When on, the goods will regulate.

I am giving the closest attention to this matter, and  
have been doing so, as the result will show.

I assure you nothing shall be wanting on my  
part to the success of the central station.

I trust no time will be lost there in getting the  
cylinder on that has been sent.

Very Truly Yours

*Chas. F. Potter*

P.S. I shall go on to the N. Y. as soon as that affair is  
ready to be tried, and attend to it personally, although  
I do not expect to be able to practically help Mr. Bond,  
who is perfectly master of the subject C. F. P.

Address all business communications to this Company.



WORKS  
AT  
546 HIGH STREET.

HENRY HOWARD, PRESIDENT.  
PARSON ARMINGTON, TREASURER.  
G. C. BING, SUPERINTENDENT.  
C. T. HOWARD, SECRETARY.

Providence R. I. Aug 25. 82

Saml Knoll Esq  
Ment Park St. Dear Sir

My friend and as soon as I can get hold of  
Edwards who is now off on a short tour with  
Fisher, who has come over to see him again,  
I think it will be well for us all to have a  
session here in Prov. when I have no doubt but  
that the French business and anything else can  
be arranged to Mr Edison's satisfaction. I am  
quite anxious that Mr Edison decide to come here  
for a day, as he will then see just how we  
are fixed for building engines &c. I will write  
you the first moment I can bring it about, and  
will thank you to inform me if this arrangement meets  
Mr Edison's wishes. — I am Yrs truly

James Watt.  
George Stephenson.

Answered  
Aug 31 1882

Parson Armington  
Providence, —

EDISON MACHINE WORKS.

104 Goerck Street,

New York, Aug 25 1882

Samuel Insull Esq.  
 Hunt Park. N.Y.  
 Dear Sir.

Yours of yesterday at hand asking for the amount ~~range~~ <sup>range</sup> of wire used on armatures & magnets of the various dynamos.

The following is a list of same.

- |   |         |   |                                                                     |
|---|---------|---|---------------------------------------------------------------------|
| J | machine | { | Armature takes 23 lbs. .042" wire                                   |
|   |         | { | Magnets take 65 lbs. #17 wire each for ea. con or 130 lbs. to each  |
| L | "       | { | Armature takes 60 lbs. .065" wire                                   |
|   |         | { | Magnets take 65 lbs. #17 B&K wire for ea. con or 260 lbs. to each   |
| K | "       | { | Armature takes 80 lbs. .065" wire                                   |
|   |         | { | Magnets take 65 lbs. #17 B&K wire for ea. con or 390 lbs. to each   |
| E | "       | { | Armature takes - 6 1/4 lbs. .042" wire.                             |
|   |         | { | Magnets take 20 lbs. #17 wire for 2 cones or 1 machine.             |
| C | "       | { | Magnets take 119 1/2 lbs. #12 wire for each con                     |
|   |         | { | Copper Discs - 1/10" thick 27 5/8" square - 95 of them to ea. mach. |
|   |         | { | Arma. Bars - 95 bars 5 1/2" long 3/4" to ea. mach.                  |
|   |         | { | " " " 5 1/2" " 3/4" " " "                                           |

Yours Respectfully  
 C. L. Hunt Esq.

9

OFFICE OF  
Edison Machine Works.  
104 Goerck Street,

New York, Aug 26 1882

J. A. Edison  
Menlo Park, N. J.  
Dear Sir,

Yours of the 25<sup>th</sup> Inst  
at hand <sup>is</sup> in reply, <sup>we</sup> wish to state  
that the latest style of <sup>1/8"</sup> brushes is  
a great improvement on the old, <sup>and</sup>  
the wire used is much smaller,

As to the ~~losing~~ <sup>loss</sup> we will  
endeavor to make the boxes  
as required.

Yours Respectfully,  
J. A. Edison

EDISON MACHINE WORKS.

104 Goerck Street.

New York, Aug. 28, 1882.

S. Inucci, Esq.

Music Park,

N. J.

Dear Sir,

The price for an

armature is \$275.<sup>00</sup>

Yours very truly,

Edison Machine Works

by John C. Rice

## THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on condition of immediate liability, which have been assigned to the sender of the following message. It is not to be repeated against any person or company, and the company will not be liable for errors or omissions in the transmission or delivery of International Messages, beyond the amount of tolls paid thereon, nor in any case where the delay is not preceded in writing with "extra care" or "special delivery".

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NORVIN GREEN, President.

| NUMBER                                                                             | SENT BY | ANSW BY | CHARGE         |
|------------------------------------------------------------------------------------|---------|---------|----------------|
| 3                                                                                  | Wm      | E       | St. Catharines |
| Received at <i>St. Pauls Depot</i> <i>Aug - 31</i> <sup>1882</sup> <sub>1883</sub> |         |         |                |
| Dated <i>Providence R. I. 31</i> <i>3 1/2 PM</i>                                   |         |         |                |
| To <i>S. S. Russell</i>                                                            |         |         |                |
| <i>Unit to have Tuesday engine</i>                                                 |         |         |                |
| <i>nearly done</i>                                                                 |         |         |                |
| <i>Wilmington &amp; Lewis Co.</i>                                                  |         |         |                |

THE EDISON ELECTRIC LIGHT CO.,  
FIFTH AVENUE

New York,

2 Sept 1882

Barnham

Mr. S. S. Russell

Dear Sir -

Mr. Saldan informed me yesterday that on 12 June or 17 July, both of which days I was away, he delivered some blue prints of a dynamo or dynamos to you to ship to London & Paris. That they were I cannot find out so cannot say whether blue prints of 2 dynamos has been sent to London or not; from Mr. Saldan's accounts I am inclined to think that the 2 has been forwarded. Will you please let me have the above information as early as possible

Yrs &amp;c

S. Barnham



THE ELECTRICAL SUPPLY CO.,

MANUFACTURERS OF

INSULATED WIRE & ELECTRICAL GOODS.

SPECIAL AGENTS FOR

The Wallace Diamond Carbon, Post & Co's, Magneto & Telephone Goods.  
Prof. & K. Cable's Light Wires, Bessner's Pencil Medical Batteries.  
The City-Insulated Wire Co's, Insulated Wires.

Electric Light, Telephone and Telegraph Supplies.

WAREHOUSE, represented by THEO. MACE,

FACTORY: ANSONIA, CT.

109 Liberty Street, New York, Sept. 5, 1882

Edison Machine Works,

104 Goerck St. City.

Dear Sirs:-

Your letter of 15th ult was referred  
to our Factory, and they have written now  
that they have experimented upon the wire  
made of copper and aluminium, and reply that  
it was impossible to draw it in the propor-  
tions submitted by you, and say that they ex-  
perimented by adding 10 oz. more of copper  
and then found that it would not draw. We  
will cheerfully make any tests that looks  
like business in this direction, and remain,

Very Truly Yours,

The Electrical Supply Co.,

Mail this to  
Mr. Edison

*Theodore Mace*

Call A. Pearson  
Morning 6:5-5 am

New York, Sept-19 1888

Mr. Edison

Dr Sir

I wish to inform you that I received no money yet Mr. Bean told me that he received no order from you. And I would like to know whether there is any use for me to go to the office any more. I don't think you would want me to work all the overtime I did for nothing. Please let me know whether I am to get any money or not, by doing so you will greatly oblige

Yours re

John McKill  
101 Walker St.  
New York City

Form No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been accepted to by the sender of the following message. Errors can be guarded against only by repeating a message back to the sending station for confirmation, and the company will not hold itself liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of tolls paid thereon, and in any case where the claim is not presented in writing within sixty days after sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. ROBERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY | CHECK |
|--------|---------|---------|-------|
| 574    | MR R    | 12 paid |       |

Received at 791 BROADWAY.

Oct 9 1882.

Dated Providence R.I.  
To Thomas A Edison 65.50 am

Can ship Engine in one week will ship this month.

-Arrington &amp; Sims

This telegram has just been received at the office in 701 BROADWAY, near Tenth Street, where any reply should be sent.

DIRECT WIRES.

Form No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

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This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. ROBERT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY   | CHECK |
|--------|---------|-----------|-------|
| 224    | MR R    | 24 8 Paid |       |

Received at 791 BROADWAY.

Oct 10 1882.

Dated Philadelphia Pa 10  
To T. A Edison

65 fifth ave ny  
Poster will be there Thursday  
Cannot come sooner  
Southwest Felt & mach Co

This telegram has just been received at the office in 701 BROADWAY, near Tenth Street, where any reply should be sent.

DIRECT WIRES.

The Electrical Supply Company,

Factory at Chicopee, Mass., U. S. A.

MANUFACTURERS OF EVERY DESCRIPTION OF INSULATED WIRE.

ELECTRIC LIGHT, TELEPHONE AND TELEGRAPH SUPPLIES.

WAREHOUSE, 109 LIBERTY ST..

REPRESENTED BY  
THEO. MACE.

New York, Oct. 10, 1882

Thomas A. Edison, Esq.,

Menlo Park, N. J.

Dear Sir:-

Your favor of the 13th ultimo was duly received and referred to our Factory, you ask "what is the greatest amount of tin we can possibly use in an alloy of copper and tin that will permit of being drawn into wire"? Our answer is that we have had very little experience in alloying copper with tin for wire, but think that nine parts of copper to one of tin is all that we could use: When copper and tin are combined in such proportions as to give an alloy sufficiently ductile to draw, it does not make a solid homogeneous metal, the surface seems a little "furry" and rough.

We shall be glad to serve you further.

Yours Respectfully,

The Electrical Supply Co.,

*Theodore Mace*

21

THE  
SOUTHWARK FOUNDRY AND MACHINE COMPANY.

SOLE MAKERS OF

The Porter-Allen High Speed Steam-Engine.

W. H. DERRICK, Pres. and Treas.  
C. F. PORTER, Vice-President.  
C. A. BOSTWICK, Secretary.  
C. S. RICHARDS, Superintendent.

PHILADELPHIA, Oct 13 188

J. A. Edison Esq  
Sju

Will you  
kindly explain to what  
engine you refer in your  
message enclosed.  
Mr Paton went to Newark  
N J Rail at yesterday  
and could get no information  
from at either places.

Very truly

SOUTHWARK FOUNDRY & MACHINE CO.

W. H. Derrick  
Over  
Prof



Oct 16

A. Insull

Chicago Company want  
price for two 1200 light dynamos  
without engines, to be run from  
a Corlies Engine by pulleys attached  
to dynamo shaft. Can they be  
furnished, & how soon & at what  
price -

Ch

Agreed ~~price~~ verbally  
\$8000 without engine

Leidy

New York Oct 17<sup>th</sup> 82.  
W. H. Merrick Exp. Cont.  
Akila Pa.

Dear Sir,

Your favor of  
14<sup>th</sup> inst to our Mr Dean is at  
hand. We have not paid for  
the engines, simply because of the  
dissatisfaction from all concerned  
here, with all the engines had from  
you. While we are fully aware  
of the conditions on which the  
engines were last taken by us from  
you, yet the whole matter is ass-  
suming such complications as to  
likely cause serious trouble, and  
you had better communicate with  
Mr Edison in reference to the  
matter.

Yours Truly  
(Signed) E. M. M. by Chas E. Pease.

# The Southwark Foundry and Machine Company.

Sole Makers of

## The Porter-Allen High Speed Steam-Engine.

W. H. MERRICK, President.  
C. T. PORTER, Vice-President.  
G. A. DOSTWICK, Secretary.  
C. B. RICHARDS, Superintendent.

RECEIVED  
OCT 21 1882  
ANSWERED

FILE No.

188.

PHILADELPHIA,

Oct 17

1882

J. A. Edison Esq

Sir I enclose a note received from the E. M. Co which surprises us greatly.

We sold the engines therein referred to only on the most urgent solicitation of Mr. Dean backed by your authorization of the sale and its terms.

Our reluctance to let the engines go was caused by the assertion on the part of your people in N.Y. that they were not satisfactory - they were sold subject to no reclamations whatever & with a full knowledge of their alleged defects - we expressly declared to ship them on the basis of the final payment being dependent on a satisfactory test and the payment of amount of such balance in. Now it has been for some time legally & equitably due.

We cannot believe that the course pursued by the Machine Co has been authorized by you & we now again request that a settlement be made in accordance with the agreement.

I should be pleased to have an interview with you on the subject of the claim upon which Mr. Dean is a member as well as most convenient

Very truly  
SOUTHWARK FOUNDRY & MACHINE CO.

Address all business communications to the Company.

2708

The Southwark Foundry and Machine Company,

Sole Makers of

The Porter-Allen High Speed Steam-Engine.

W. H. MERRICK, President,  
C. T. PORTER, Vice-President,  
G. A. BOSTWICK, Secretary,  
C. B. RICHARDS, Superintendent.

PHILADELPHIA, \_\_\_\_\_ 188

P.S. On the 6<sup>th</sup> Sept we wrote asking for a settlement which had then been due since 28<sup>th</sup> Aug & received the following reply

W. H. Merrick Esq  
The Southwark Foundry & Machine Co  
Philadelphia Pa

We have your favor of 6<sup>th</sup> Sept. We will settle your account in a few days meantime we ask you indulgence

Yours truly  
E. M. C.  
& Chas E Rocap.

In this letter the reasons for non settlement seem to be other than unsatisfactory running.

SOUTHWARK FOUNDRY & MACHINE CO.  
27. 188

OFFICE OF  
Edison Machine Works,  
104 Cooper Street,  
New York, *Oct 18* 1882

*Yes*  
*Wm. K. Smith*  
J. W. Edison, Esq.

*Wm. K. Smith*  
65 Fifth Ave., City

*Wm. K. Smith*  
Dear Sir:

Please advise  
me if the Switchboard now  
at the Station made by  
Bergmann, works satisfactory  
enough, for me to order  
three more like it for  
the dynamos in this shop.

Yours Truly

*J. W. Edison*

The Southwark Foundry and Machine Company,

Sole Makers of

The Porter-Allen High Speed Steam-Engine.

W. H. HERRICK, President.  
C. T. PORTER, Vice-President.  
G. A. BOSTWICK, Secretary.  
C. B. RICHARDS, Superintendant.

OCT 21 1882  
ANSWERED

PHILADELPHIA, Oct 20 1882  
FILE NO.

J. A. Edwards Esq

Sir  
Next week most of the  
business in Phila will be at a stand  
still - if you will be at 257 Pearl  
St on Tuesday I should very much  
like to bring Mr Richards & my brother  
who is a Director in this Company  
& have an interview with yourself  
& Mr Clarke. Please advise me

Very truly  
W. H. Herrick

SOUTHWARK FOUNDRY & MACHINE CO.

will be in New York on  
Tuesday if you call here  
any time on that day if I  
am not here my Secretary  
Mr Insull will be able to  
reach me by telephone

Address all business communications to the Company.

Form No. 1.

**THE WESTERN UNION TELEGRAPH COMPANY.**

This Company TRANSMITS and DELIVERS messages only on conditions limiting its liability, which have been accepted by the sender of the following message. Errors can be remedied only by repeating a message back to the sending station for correction. The Company will not be held liable for errors or delays in transmission or delivery of Unrepeated Messages, beyond the amount of time paid thereon, nor for any delay which may be caused by any procedure in writing which may cause delay in sending the message.

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions stated above.

T. C. SACKETT, General Manager.

NORVIN GREEN, President.

| NUMBER | SENT BY | RECD BY | CHECK |
|--------|---------|---------|-------|
| 442    | Ed R    | Ed R    |       |

Received at 791 BROADWAY.

Oct 23, 1882.

Dated Phila Pa 23.

To J. A. Edison 65 Fifth Ave.

Will be at year at about  
eleven thirty tomorrow

Southwest family  
v Mac

This telegram has just been received at the office in 791 BROADWAY, near Tenth Street, where any reply should be sent.

DIRECT WIRE.

The Southwark Foundry and Machine Company,

Sole Makers of

The Porter-Allen High Speed Steam-Engine.

W. H. MERRICK, President.  
C. T. PORTER, Vice-President.  
G. A. BOSTWICK, Secretary.  
C. B. RICHARDS, Superintendant.

RECEIVED  
OCT 31 1882  
PHILADELPHIA, PA. ANSWERED  
.....188...  
FILE NO. 12.....

I. H. Crocker Esq  
Esq

We beg to remind you of your promise that in four or five days we should receive the amount due us from the Porter-Allen Co. in the sum of \$10,000.00 which you have not yet paid.

Please bear the amount remitted to date to make up all books in order to be pleased to have a state amount of how our account stands in the books of the Highley Co that we may be satisfied it agrees with our

Very truly  
SOUTHWARK FOUNDRY & MACHINE CO.  
I. H. Crocker  
Esq's.

As you will send us a name of the agent you wish to send of whom you wish to start we can get one up to fill

THE  
SOUTHWARK FOUNDRY AND MACHINE COMPANY,

RECEIVED  
NOV 12 1882  
The Porter <sup>WATERBURY</sup> High Speed Steam-Engine.

ANSWERED

W. H. HERRICK, Pres. and Treas.

C. T. PORTER, Vice-President.

C. A. BOSTWICK, Secretary.

C. B. RICHARDS, Superintendent.

FILE No. 107

270 No. 662 Nov 1st 1882

J. A. Edson Esq.

My dear Sir:

You will oblige me if you will notify me when you have in full running one or two of the dynamos connected with engines to which the new cylinders have been applied; And if you will make an appointment to meet me at a time when you will yourself be able to devote some attention to the subject of the engines. I will then call on you and will try to spend time enough with you to enable us to decide on the causes & cure of the difficulties you experience in using the engines.

Mean while an experimental governor is being made, of a type different from those now on your engines.

Yours truly  
C. B. Richards

Address all business communications to the Company

Southwark

EDISON MACHINE WORKS,

104 Goerck Street,

New York, ~~Nov 14~~<sup>14</sup> 1882.

S. Ingersoll, Esq.  
65 5th Ave.  
City.

Dear Sir,

You have requested me  
to answer the following questions:

How much have we invested in plant?

finished stock?

unfinished " ?

If the Light Co. were owners of the Works how much  
working capital would they require?

If you remember we answered a number of questions some  
months ago for Maj. Eaton and among them were similar  
questions to those asked above. He stated at that time our  
investment in plant to be \$250,000. It stands now on our  
books at \$185,000.

The heaviest finished stock we have ever had  
on hand at any one time was last month when we reported  
34 ga. 60. Co. 32 No. and 6 Co. These would cost roughly for  
a \$4450. L. 700. K. 1000. and C. 7000. making for the lot  
about \$12000. carried in finished stock.

As to unfinished stock, you know we  
work the material up very fast. There is no necessity to  
accumulate material. I should say we never had \$5000. worth  
of unfinished material on hand even when running at our  
highest. But as to this it is a matter of commercial stock  
may be accumulated or it can be worked up as fast as received.

EDISON MACHINE WORKS,

104 Goerck Street,

New York, \_\_\_\_\_ 188

As to the working capital required; we have owed as high as \$100,000, at one time. I do not think we could or ever should owe much more than this, except by very poor management in our manufacture.

You will note that when we had on hand \$130,000 in finished stock, we owed about \$100,000, nearly for all the machines, except about \$27,000.

Of course we are considering the present state of the business; but when the future is looked at these figures might be increased almost indefinitely as this shop has very large capacity.

I should mention this place is rented at \$6200, and could be bought at about \$100,000.

Yours very truly,

Edison

Plant \$79,800  
 Finished stock 150,000  
 Unfinished stock 35,000  
 385

209411.70

39,000

631411

Average pay roll }  
 & bills monthly } 100,000

HALF RATE MESSAGES.

**THE WESTERN UNION TELEGRAPH COMPANY**

This Company TRANSMITS and DELIVERS Messages on condition, limiting its liability, which have been accepted by the several States and Territories, and by the several cities to which they are delivered, and the Company is not responsible for any loss or damage to property or messages transmitted thereon, and the Company is not responsible for any loss or damage to property or messages transmitted thereon, and the Company is not responsible for any loss or damage to property or messages transmitted thereon.

Date: Providence R.I. 1882

Received at 191 BROADWAY  
Wm. A. Edison

READ THE NOTICE AT THE TOP.

*65 fifth ave ny*  
*We will write you*  
*tomorrow about your*  
*Engines*

*The Armington*  
*Watts Co.*

12.

Nov. 14. 82.

Deming's Leo



WORKS  
AT  
546 HIGH STREET.

HENRY HOWARD, President.  
PARSON ARMINGTON, Treasurer.  
G. C. SIMS, Superintendent.  
C. T. HOWARD, Secretary.

PROVIDENCE, R. I., Nov. 16th, 1882

Thomas A. Edison Esq.

Dear Sir

Your telegram concerning 14 1/2 x 13 engines received. We have shipped you three engines and have the material for nine on hand. We have three engines nearly completed with the exception of steel cranks. Your work is progressing rapidly and we can ship you an engine on or about Dec. 9th, 16th, and 23d. Six others are following there. At present it will not be safe to state any time for delivery.

Respectfully Yours

G. C. Sims, Supt.

NEW YORK, November 21<sup>st</sup> 1882

Edison Machine Works

Gentleman:

Yours of the 18th. at hand. Am glad to know the Z  
armature has been returned to us.

I don't quite comprehend your theory in regard to  
defects in manufactures.

It seems to me if they are of such a character that the  
Dynamo will not work that we ought not to be responsible.  
The E. armature will be very acceptable when it comes to  
hand. We send you another E. armature by express to day.  
You will notice that the commutator is cut entirely  
through. These two E. Dynamos will not work even  
with twelve lights without an excessive amount of  
sparking and in this latter case the bars are  
literally cut in two by the current.

We have tried every conceivable means of stopping this  
trouble without success. Our present opinion is that  
the E. Dynamo is not sufficiently reliable to be  
recommended to our customers. As soon as the E. Dynam  
on the way comes to hand we are going to put it up  
at our headquarters and run it under the best of care  
to see what the result actually is. It seems strange  
that the small machines cannot be made to work as  
well as the larger ones. If we only had a twenty five  
light Dynamo at about the price this fifteen is sold  
for a great many could be disposed of. How long am I to  
understand that you will reserve the K's for us?

Sincerely Yours Geo. H. Bliss. Gen. Supt

Mr. Edison,

Mr. Fabbri, of Fabbri & Chauncey, complains in a very serious manner about the failure of the Machine Works to make shipments when ordered for South America, according to the directions given. He says that there has not been a single instance where the Machine Works have made the shipments according to the written instructions. He takes especial pains to have the instructions in writing in full, and Goddard says that it is done in every case, but that the shipments are never ade correct.

Fabbri says his people in South America, especially Chili, are very indignant about it. The trouble seems to be almost entirely with the shipments from the Edison Machine Works. Will it be too much trouble for you to bear this matter in mind and to impress upon Mr. Dean the importance of having goods shipped exactly as they are ordered, of having the packages marked exactly as they are ordered, and of having the receipts sent just as requested? Among other troubles which the failure to follow instructions causes, is serious trouble with the Custom House authorities in Chili. The shipments have to be made in a certain way and consular certificates have to go forward in such a way, that unless the receipts are handed to Fabbri & Chauncey promptly, and correctly, they cannot go forward until a subsequent steamer,

and the goods are detained in Custom House in Chili.

May I trouble you to impress on Mr. Dean the importance of greater care in this regard?

S. B. Eaton

November 27th. 1882.

per H.C.G.

Form No. 1.

### THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only on appliances suitable for the service, which have been certified by the sender of the following message. Payment for service is made only by receiving a message back in the sending office for counter-check, and the company will not hold itself liable for errors caused by transmission or delivery of telegraphed messages, beyond the amount of actual charges, for in any case where the same are exacted, the sender is required by request of the sender, under the conditions set out above.

THOMAS C. SPENCER, General Manager. NORVIN GREEN, President.

|        |         |         |       |
|--------|---------|---------|-------|
| NUMBER | SENT BY | RECD BY | CHECK |
| 138    | NY      | by 9th  | 11/21 |

Received at **791 BROADWAY.**

Nov. 21 1882

Dated, Providence R. I. 27

To, Saml. Dinsall

65 fifth ave

Do not fail to send.

Remittance by tonight's mail

P. Wilmington

This telegram has just been received at the office in 791 BROADWAY, near Tenth Street, where any reply should be sent.

DIRECT WIRES.

S. B. Gator

Your memo of 29<sup>th</sup>  
inst as to Mr Robbins  
complaints against  
the machine works in  
S. A. Shipment has  
been turned over to me  
by Mr Gator with  
instrs to look into the  
matter

Col Goddard made  
same complaints to  
me several weeks back,  
& I am very sorry  
it should still go  
on. Whoever is responsible  
at mech. wks. shall be  
"talked to" & I will see  
it does not occur  
again. S. B. Gator

28<sup>th</sup> Nov 02

[ATTACHMENT]

Mr. Insull,

I guess this must be the same matter which Goddard spoke about. It is a matter of detail which relates rather to his office than to mine. Mr. Fabbri brought the matter to my notice at the time I sent my memorandum of the 27th. I have no doubt everything will be all right in the future.

S. B. Eaton

November 29th. 1942.

per H.C.G.



HENRY HOWARD, PRESIDENT.  
 PARSON ARMINGTON, TREASURER.  
 G. C. SIMS, SUPERVISOR.  
 C. T. HOWARD, SECRETARY.

WORKS  
 AT  
 548 HIGH STREET.

London P. O. Dec. 4. 82 -

Thomas A. Edison, Esq

New York Office

20  
 21  
 I am just in  
 rec<sup>d</sup> of enclosed cablegram from Paris -  
 I presume that this is for two 8 1/2 x 10  
 Engines - I think that we can keep  
 them supplied with what he want have  
 of this size and give them to you in  
 two weeks after order. I have not  
 answered it as we prefer that it be  
 done through you. - Y<sup>rs</sup> truly

Parson Armington  
 Treasurer -

answered  
 Dec 6<sup>th</sup> 1882

I beg to acknowledge receipt of  
 your favor of 4<sup>th</sup> inst. I have  
 cabled to Paris that you will  
 deliver <sup>five</sup> engines ~~two~~ two weeks after receipt

Form No. 5

No.

286

## CABLE MESSAGE.

## THE WESTERN UNION TELEGRAPH COMPANY.

ALL CABLE MESSAGES paid for transmission into service on the Message  
 blank provided by this Company for the purpose, and on the conditions  
 printed thereon, and in the event the conditions have been agreed to by the  
 sender of the following message.

A. R. BREWER, Secretary.

NORVIN GREEN, President.

Check

15 Paris

Received at

Dec 4

1898

Armington  
 Providence R  
 When can ship antwerp  
 two engines 70 Pressure Class  
 B 350 revolution  
 Edison

EDISON MACHINE WORKS,

104 Goerck Street,

New York, Dec. 5<sup>th</sup> 1882.

S. Inwell, Esq.

65 5<sup>th</sup> Ave.

City.

Dear Sir,

Your favor of 1<sup>st</sup> inst. to hand,  
with enclosure as stated.

Regarding the complaints about S. a.  
shipments, I try to say that we have made two or three mistakes  
hardly worth noticing in previous shipments. These errors were  
of such nature as would be likely to occur to anyone. However  
I have taken every precaution to prevent such occurrence in future.

Referring to the parts missing from  
L<sup>o</sup> dynamo No 30 I find that all these parts are packed  
in a small box in our shipments, and the cover being torn  
in this case, the box being numbered 452 and was sent  
together with a large shipment of which this dynamo was  
a part for S. S. Bally of Home Bay 10<sup>th</sup> last. This would  
indicate that this box had been lost, since no other parts  
except those mentioned are packed in these particular  
boxes. I should have thought they would have mentioned  
this fact. However we will send at once <sup>replacing</sup> the missing parts.

Yours very truly,

Charles Crozier

STENOGRAPHIC

Memorandum for Mr Samuel Insull

Referring to your memorandum of 5th inst relative to samples of Roselle wire for testing, Mr Moore has promised to send some to Goerck Street at earliest possible moment.

Yours very truly,

New York, December 6th--1892

*J. Hastings*

12

OFFICE OF

Edison Machine Works.

104 Goerck Street,

New York, *Dec 8* 1892

*Insull*

J. A. Edison Esq.  
Dear Sir,

The punching of the holes in the mica, is a failure on account of the wear on the die. I haven't near enough mica pieces to make one brush. The die cannot stand the work and consequently it is impracticable.

I am trying to think of some way to make the brushes with glass beads insulating the wire and I have a brush made that is insulated in the trough with mica and also insulated between each layer of wire. This is the brush I will try on the German silvers

Count - Tomorrow

Your's Respectfully  
*C. L. Dean*  
C. L. Dean



WORKS  
AT  
640 HIGH STREET.

HENRY HOWARD, PRESIDENT.  
PARSON ARMINGTON, TREASURER.  
G. C. BINE, SUPERINTENDENT.  
C. T. HOWARD, SECRETARY.

Providence R. I. Dec. 28<sup>th</sup> 1882

Saml Insull, Esq  
Mullok

Dear Sir Your telegram recd.

and at same time Mr Proden came with an order from Mr Clarke to take on of the Central Pattern Engines. We shall ship on tomorrow - this makes with the two you sent abroad, five delivered - Your order cover twelve engines - we shall deliver

Proden's Jan 15<sup>th</sup> and can deliver on a week thereafter until the order (12) is filled, and you can send them where you please. If you are likely to want this size engines and wish to increase your order now, we can probably keep up the delivery of on a week. Shall we send you the on 8<sup>th</sup> 10 as soon as we get it out, or wait until they are both done. Moon comes in for his back order so like the d-l that we are a little behind with these two. The Providence Armington



WORKS  
AT  
516 HIGH STREET.

HENRY HOWARD, PRESIDENT.  
PARDON ARMINGTON, TREASURER.  
G. C. SIMS, SUPERINTENDENT.  
C. T. HOWARD, SECRETARY.

*copy*

PROVIDENCE, R. I., Dec. 28<sup>th</sup> 1882

Saml. Duell, Esq.  
New York

Dear Sir:-

Your telegram received and at same time Mr. Gordon came with an order from Mr. Clarke to take one of the Central Station Engines. We shall ~~probably~~ ship one tomorrow - this make, with the two you sent abroad, five delivered - four orders cover twelve engines - we shall deliver Gordons day 15<sup>th</sup> and can deliver one or more there after until the order (12) is filled, and you can send them where you please. If you are likely to want this size engine and wish to increase <sup>your order</sup> now, we can probably keep up the delivery of one or more. Shall we send you one 87/10 and soon as we get it out, or wait until they are both done. None comes in for the back orders, so like the d-l that are a little behind with them too.

Jos. Pardon Armington  
J.P.

Form No. 1

# THE WESTERN UNION TELEGRAPH COMPANY.

This Company TRANSMITS and DELIVERS messages only in accordance with the conditions limiting its liability, which have been accepted by the sender of the following message, in transmission or delivery of Unrepeated Messages, beyond the month of July past (except, and the company will not hold itself liable for arrears or delay after sending the message).

This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

NORVIN ORRICKEN, President *NOV*

| NUMBER | SENT BY | RECD BY | CLERK  |
|--------|---------|---------|--------|
| 262    | Un      | Ar      | 3 paid |

Received at 791 BROADWAY.

Dec 29 1882

Dated Providence R.I. 29  
Saml Insull 65 Fifth Ave.

Wrote you yesterday  
P. Amington

This telegram has just been received at the office in 791 BROADWAY, near South Street, where any reply should be sent.  
DIRECT WIRE.



WORKS  
AT  
546 HIGH STREET.

HENRY HOWARD, President.  
PARSON ARMINGTON, Treasurer.  
G. C. SING, Superintendent.  
C. T. HOWARD, Secretary.

Providence R. I. Dec 29. 82

James Insuble, Esq

Providence

Sir

Regarding the Foundation Plan

20  
21

of the 2 - 8 1/2 x 10 Engine for Antwerp: -

Mr Moore has them plans and you had

letter got from Mr Schobbe a blue print. -

Yours

Parson Armington  
J. W. Trassum -



WORKS  
AT  
546 HIGH STREET.

HENRY HOWARD, PRESIDENT.  
PARSON ARMINGTON, TREASURER.  
G. C. SIMS, SUPERINTENDENT.  
C. T. HOWARD, SECRETARY.

Providence R. I. Dec. 29. 82

Thos A. Edison Esq  
N.Y. My dear Sir,

Mr. Dean has visited us today and I learn from him that you have commenced to build dynamo's in Canada. Sims and myself held on to our Canada patents, thinking that when the proper time came we would work it up on our own account. There should be, if you are going to start in there, a field for the A.S. engine, and I propose to take steps for developing it - but before doing anything I wish to give you & Thomson and the "gang" an opportunity to either go in with us, or may be take the whole thing. I shall be in N.Y. on Wednesday will see you about it -

Yours truly,  
Parson Armington  
54

Form No. 1

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This is an UNREPEATED MESSAGE, and is delivered by request of the sender, under the conditions named above.

THOS. T. SHERBERT, General Manager.

HORVIN GREEN, President.

| NUMBER | SENT BY | RECEIVED BY | CHECK |
|--------|---------|-------------|-------|
| 305    | J. K.   | gads        |       |

Received at **791 BROADWAY.** Dec 30 1882

Dated Providence R.I. 30  
To Saml. Russell 67 5 Ave

Will ship two B engines for  
Antwerp next Saturday

London Armstrong

This telegram has just been received at the office in 791 BROADWAY, 791 1/2 South Street, where any reply should be sent.

DIRECT WIRE.



Wrote original to Lewis  
with the idea for the  
WORLD'S  
GREATEST  
HIGH FOUNDRY,  
SOUTH STREET,  
NEW YORK.

Thomas A. Edison  
My Dear Sir

Do wish to get your suggest  
for Johnson in terms. I have  
promised to send Prof. an  
engine so that they can have  
at night they now look power  
from the Builders Family there  
landlord who are running a large  
engine to drive one other shop.  
Prof. requires only about 6 H.P.  
for their shop and I thought  
they could use one of Humphreys  
5 H.P. or if you have some other  
at once one of these gear engines  
which you have a Scotch St

They will put it up and come  
from a double gear working  
all night ship at New Providence  
and marked Arrington from  
Providence R.I. telegraph station  
we receipt of the letter the size  
of the driving pulley so that  
they can arrange their Combs  
shaft re If you have only the  
one you are now lighting your  
shaft work could you not use the  
D & S Anderson as testing work for  
the lighting I see no other way  
to get our engines in time unless  
we do this Prof. here but just  
got fairly to work and was putting  
on use the same they have work to  
do and they must keep going and  
Prof. will not be interfered with  
they will have good two 8000 engine  
ready for work and ten days

English Civil



NEW YORK LONDON

Mr Editor,

I enclose checks for contracts ~~printed~~ which please sign and send back by first mail as the men are anxious for their pay. I also enclose a few of the bills as samples, would send all but it would be too bulky. I have thought it better to draw one check and cash it paying the men in money as to give check for each man would make a great many checks and the men don't like checks as they are bothered to get them cashed. But we have got the contract business down fine now as you will see by the bills giving all information ~~as~~ I went over

with Dean all the contracts this week, and the result has been to reduce all working of armatures and connecting just  $\frac{1}{2}$  and the binding  $\frac{2}{3}$  making a saving now of from \$200 to \$500 per week. Please return the bills. Receipt

Our Es. when all done will loosely fill the orders from Paris & London. Now the Lamp Co. want a machine (£) What shall we do.

## EDISON MACHINE WORKS.

104 Goerck Street,

New York, ..... 188

Weights & measures of the 250 Lt Dynamo  
Armature Box

|        |        |      |            |
|--------|--------|------|------------|
| High   | Wide   | Long |            |
| 20 in. | 21 in. | 7 ft |            |
|        | Gross  |      | 1012 lb    |
|        | Tare   |      | <u>310</u> |
|        | net    |      | 702        |

3 Shield Boxes  
Each box as follows

|       |           |           |                 |
|-------|-----------|-----------|-----------------|
| High  | Wide      | Long      |                 |
| 19 in | 2 ft 7 in | 6 ft 1 in |                 |
|       | Gross     |           | 2010 lb. = 6030 |
|       | Tare      |           | <u>325</u>      |
|       | net       |           | 5355            |

Box for Pulley etc

|       |           |           |            |
|-------|-----------|-----------|------------|
| High  | Wide      | Long      |            |
| 19 in | 19 3/4 in | 2 ft 9 in |            |
|       | Gross     |           | 645 1/2 lb |
|       | Tare      |           | <u>90</u>  |
|       | net       |           | 555 1/2    |

Switch Board Box

|          |          |           |           |
|----------|----------|-----------|-----------|
| High     | Wide     | Long      |           |
| 7 1/4 in | 9 3/4 in | 2 ft 2 in |           |
|          | Gross    |           | 11 lb     |
|          | Tare     |           | <u>12</u> |
|          | net      |           | 29        |

Bed plate shielded

|       |           |           |            |
|-------|-----------|-----------|------------|
| High  | Wide      | Long      |            |
| 25 in | 2 ft 5 in | 6 ft 5 in |            |
|       | Gross     |           | 1751       |
|       | Tare      |           | <u>140</u> |
|       | net       |           | 1611       |

(1892)

### Case No. 1.

To throw in Spare Dynamo to help Dynamo A

1. Close Field switch to left
2. Put in plug Z
3. Close main switch to left

### Case No 2

To throw off Spare Dynamo from Dynamo A

1. Open Main Switch
2. Pull out plug Z

### Case 3

To throw in spare Dynamo to help Dynamo B

1. Close Field switch to right
2. Put in plug Z
3. Close Main Switch to right

### Case 4

To throw off Spare Dynamo from Dynamo B

1. Open main switch
2. Pull out plug Z

### Case 5

To throw in Spare Dynamo in place of Dynamo A  
in case of A breaking down

1. Open switch on head-board of  
Dynamo A
2. Proceed as in Case 1

### Case 6

To throw in spare Dynamo in place of Dynamo B  
in case of B breaking down

1. Open switch on head-board of Dynamo B.
2. Proceed as in Case 3.

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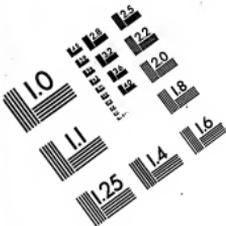
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Inches

